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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——"VIRESQUE ACQUIRIT EUNDO."——*Virg.*

VOL. XVI.

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SILENE acaulis.

Moſs Campion.

DECANDRIA Trigynia.

GEN. CHAR. *Cal.* ſwelling, of one leaf. *Petals* 5, with claws. *Capſ.* ſuperior, imperfectly 3-celled, burſting at the ſummit. *Seeds* many.

SPEC. CHAR. Leaves linear, ciliated at the baſe. Stalks ſolitary, ſingle-flowered. Petals crowned.

SYN. Silene acaulis. *Linn. Sp. Pl.* 603. *Sm. Fl. Brit.* 472. *Lightf.* 227. *t.* 12. *f.* 1. *With.* 416. *Hull.* 98. *Dickſ. H. Sicc. faſc.* 1. 8.

Cucubalus acaulis. *Hudſ.* 187.

Lychnis alpina minima. *Raii Syn.* 341.

A NATIVE of the higher parts of the moſt alpine mountains of Britain, where its elegant bloſſoms appear in June and July, and its ripe capſules in Auguſt. Our ſpecimens were collected on Snowdon, July 12th laſt, by Mr. D. Turner. We have been favoured with others from ſeveral friends in Scotland.

The root is perennial, running deep into the fiſſures of rocks, and branching at its crown into many ſhort, leafy, proſtrate, ſubdivided ſtems, which form thick moſſy tufts. Leaves crowded, ſpreading, linear, acute, more or leſs ciliated, eſpecially towards their baſe, which is extended into a ſheathing, dilated foot-ſtalk; their colour is a bright green. From the ſummit of each ſhort branch of the ſtem ariſes one elegant roſe-coloured flower, on a ſimple, ſmooth, naked ſtalk, which is at firſt very ſhort, but as the fruit ripens becomes often an inch and half long. The calyx is moſtly purple in the upper part. Petals ſlightly notched, minutely crowned at their baſe, as we have often had an opportunity of obſerving. Capſule cylindrical, lengthened out as it ripens, as in the genus *Ceraſtium*.

From the above deſcription it appears that the term *acaulis* is not ſtrictly applicable to this plant, but rather alludes to its appearance at firſt ſight.

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SPERGULA ſubulata.

Ciliated Awl-ſhaped Spurrey.

DECANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-leaved. *Petals* 5, undivided. *Capſule* ſuperior, ovate, of 1 cell and 5 valves.

SPEC. CHAR. Leaves oppoſite, awl-ſhaped, fringed, tipped with a briſtly point. Flower-ſtalks ſolitary, very long, ſomewhat hairy.

SYN. Spergula ſubulata. *Sm. Fl. Brit.* 505. *With.* 436. *Hull.* 102. *Swartz. Act. Holm. ann.* 1789. 45. *t.* 1. *f.* 3.

S. laricina. *Hudſ.* 203. *Lightf.* 244.

S. ſaginoides. *Curt. Lond. faſc.* 4. *t.* 35.

Sagina procumbens β. *Linn. Sp. Pl.* 185.

Saxifraga graminea puſilla, foliis brevioribus craſſioribus et ſucculentioribus. *Raii Syn.* 345.

IT appears from original authorities that Linnæus confounded this plant with *Sagina procumbens*; hence it is not to be found properly characterized in any of his own publications.—Mr. Hudſon, led by the ſpecific character of *Spergula laricina*, miſtook it for that ſpecies, how erroneouſly may be ſeen by the *Plant. Io. ex Herb. Linn. t.* 18. Dr. Swartz and Profeſſor Wildenow have at length properly defined it.

This ſpecies grows on ſandy barren heaths, flowering from June to Auguſt. Mr. W. Borrer favoured us with ſpecimens. The root is fibrous and perennial. Stems ſeveral, ſpreading, and taking root, leafy, ſmooth, or rarely a little pubeſcent. Leaves oppoſite, joined at the baſe, linear, tapering to a point, tipped with a little briſtle, and fringed with glandular hairs, by which two laſt marks this is certainly diſtinguiſhed from *S. ſaginoides*, a plant otherwiſe greatly reſembling it, but much more rare. Flower-ſtalks terminal or axillary, ſolitary, long, more or leſs clothed with glutinous, ſhort hairs, as is likewiſe the calyx. Petals obovate, obtuſe, entire, white, the length of the calyx. Stamina moſt generally 5, ſometimes 10. Capſule ovate, ſcarcely exceeding the calyx in length, burſting into 5 valves. Seeds minute, kidney-ſhaped, compreſſed, pale-brown, encircled with a black line, but not with a dilated membranous margin.

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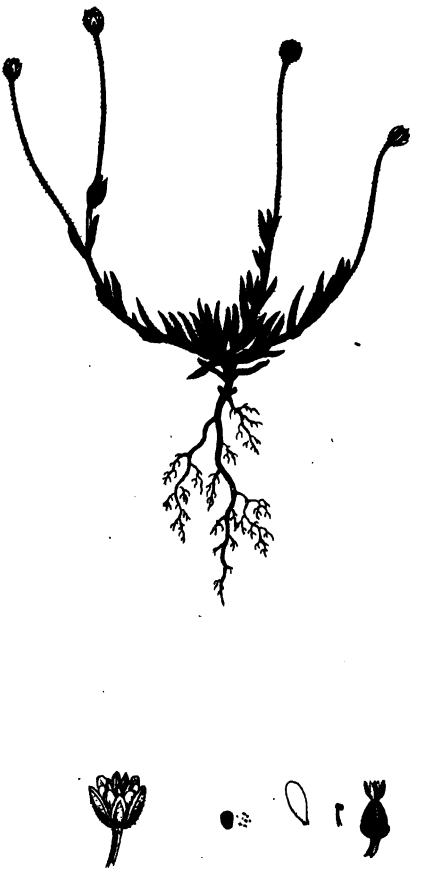

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ASARUM europæum.
Aſarabacca.

DODECANDRIA Monogynia.

GEN. CHAR. *Cal.* 3-cleft, ſtanding on the germen. *Cor.* none. *Stam.* 12. *Capſ.* coriaceous, of 6 cells, crowned with the calyx. *Stigma* in 6 ſegments.

SPEC. CHAR. Leaves two, kidney-ſhaped, obtuſe.

SYN. Aſarum europæum. *Linn. Sp. Pl.* 633. *Sm. Fl. Brit.* 509. *Hudſ.* 205. *With.* 440. *Hull.* 104. *Woodv. Med. Bot. t.* 86. *Dickſ. Dr. Pl.* 7.

Aſarum. *Raii Syn.* 158.

WE are indebted to the Rev. Charles Abbot, D.D. for wild ſpecimens of this very rare plant, gathered by himſelf this ſummer, by the road ſide, between Henley and Maidenhead. It has heretofore been remarked principally in Lancaſhire and its borders.

The Aſarabacca grows naturally in ſhady ſituations, and is perennial, flowering in May. The root conſiſts of many branched fibres, and has a ſtrong pungent ſmell, ſomewhat reſembling pepper and ginger. The ſtems are very ſhort and perfectly ſimple, bearing a pair only of dark-green, ſhining, kidney-ſhaped, entire, veiny leaves, on long, downy foot-ſtalks. Flower ſolitary, terminal, drooping, on a ſhort, downy ſtalk, and conſiſting of a downy, dull-purple, pitcher-ſhaped calyx, cut into three lobes, and crowning a roundiſh germen, which becomes a leathery capſule, containing ſix ſeeds in as many cells. The ſtamina, which are ſingularly beaked, and the 6-cleft ſtigma, are concealed in the bottom of the calyx, and like it in colour.

The leaves have a pungent ſmell, different from that of the root, and their powder is uſed in medicine to promote ſneezing. The root is ſaid to be emetic. In natural affinities and qualities this plant comes near *Ariſtolochia*.

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ISOETES lacuſtris.

Quillwort.

CRYPTOGAMIA Filices.

GEN. CHAR. Male within the baſe of the inner leaves. *Anthera* ſolitary, ſtanding on a heart-ſhaped receptacle.

Female within the baſe of the outer leaves. *Germen* ſtanding on a heart-ſhaped receptacle. *Capſule* membranous. *Seeds* many, angular, rough.

SPEC. CHAR. Fronds awl-ſhaped ſemicylindrical. Capſules roundiſh, of two cells. Seeds granulated all over.

SYN. Iſoetes lacuſtris. *Linn. Sp. Pl.* 1563. *Hudſ.* 462. *With.* 760. *Hull.* 245. *Lightf.* 683. *Bolt. Fil.* 74. *t.* 41.

Calamaria folio breviore et craſſiore, *Dill. Muſc.* 540. *t.* 80. *f.* 1.

Subularia vulgaris erecta, folio rigidiſſimo, *Raii Syn.* 306.

QUILLWORT is only found under water about the margins of the moſt alpine Britiſh lakes, where it bears its fructification early in ſummer. We have received it from Mr. G. Donn, and from our late much eſteemed friend Mr. J. Mackay. The root is perennial, tuberous, throwing out many long, ſimple fibres. Each plant conſiſts of many ſimple, awl-ſhaped, ſemicylindrical, ſmooth fronds or leaves, rather ſpreading, and often recurved at the tip. Internally they are longitudinally divided into four cells, and furniſhed with numerous, tranſverſe *ſepta*. Their baſe is ſomewhat dilated, and bordered with a membrane, and the fructification is ſituated on the inner ſide, the inner row of leaves being male, the outer female.

The anthera and germen each ſtands on an inverſely heart-ſhaped receptacle. The capſule, when ripe, is nearly as large as a pea, immerſed in the baſe of the fronds, thin and membranous, divided into two cells, and containing numerous, ſmall, white ſeeds, covered with minute granulations.

The longer-leaved plants, repreſented in Dillenius's ſecond figure, though deſcribed by the accurate Dr. Richardſon as being remarkably brittle, and different in ſome other reſpects from the common kind, are now conſidered as a mere variety.

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PTEROGONIUM gracile.

Slender Pterogonium.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Fringe* ſimple, of 16 linear, upright teeth. *Flowers* lateral. *Veil* often hairy.

SPEC. CHAR. Stems creeping, cluſtered. Branches cylindrical, curved. Leaves imbricated, ovate, minutely toothed. Capſules oblong, nearly erect.

SYN. Pterogonium gracile. *Swartz. Muſc. Suec.* 26.
Pterigynandrum gracile. *Hedw. Sp. Muſc.* 80. *Crypt. v.* 4. 16. *t.* 6.
Hypnum gracile. *Linn. Mant.* 310. *Lightf.* 766. *With.* 860. *Hull.* 272.
H. ornithopoides. *Hudſ.* 508.
H. gracile ornithopodioides. *Dill. Muſc.* 320. *t.* 41. *f.* 55.

THIS moſs is peculiar to mountainous countries. We have no where ſeen it in greater abundance than in the neighbourhood of Edinburgh, where it forms great patches on rocks or trees, but the fructification has rarely been obſerved in Britain, though common in France and Italy. Mr. D. Turner found the plant in that ſtate in Ireland this ſummer; and it muſt be conſidered as a very fortunate acquiſition, as it ſerves to confirm Hedwig's obſervations reſpecting this new genus *Pterogonium*; for the hairy *calyptra* or veil has been obſerved by him in ſome Pennſylvanian ſpecies, though he had not ſeen it in this, probably becauſe the hairs fall off very early, which we find to be the caſe. This mark and the want of an inner fringe are ſufficient to keep *Pterogonium* ſeparate from *Hypnum*.

The preſent ſpecies is known by its ſlender cylindrical branches, curved inward (eſpecially when dry), thickly clothed with broad, acute, ſerrulated, nerveleſs leaves. The fruit-ſtalks ſpring from a lateral, ſcaly bulb. The capſule is a little curved. The veil cylindrical, and very ſlender.

Mr. Dickſon's *Hypnum Smithii* belongs to this genus.

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JUNGERMANNIA tamariſcifolia.

Tamariſk Jungermannia.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male flowers ſeſſile.

Capſule on a ſtalk riſing from a ſheath, of 4 valves. *Seeds* attached to elaſtic filaments.

SPEC. CHAR. Fronds procumbent, much branched, ſpreading. Leaves roundiſh, obtuſe, convex, with auricles of the ſame form, and cloven ſtipulæ.

SYN. Jungermannia tamariſcifolia. *Linn. Sp. Pl.* 1600. *Hudſ.* 514. *With.* 879. *Hull.* 280. *Relh.* 394. *Sibth.* 311. *Abbot.* 253.

Lichenaſtrum imbricatum, Tamariſci Narbonenſis facie. *Dill. Muſc.* 499. *t.* 72. *f.* 31.

COMMON on moiſt rocks and the ſtems of trees, which it clothes in large flat brown patches, eaſily ſtripped off. The fronds are cloſely imbricated, rather zigzag, ſubdivided into numerous ſhort divaricated branches, all cloſely covered with ſmall, convex, ſhining, two-ranked, roundiſh, entire leaves, green when young, but ſoon becoming of a mahogany brown. Each of theſe bears underneath a ſmall auricle of its own figure, and adjoining to it on the main ſtem is a ſmall cloven ſcale or ſtipula, for the knowledge of whoſe true form and nature we are obliged to the Rev. Mr. Francis. The capſules appear in March on ſhort ſtalks, each from a terminal, inflated, lobed, granulated ſheath. Theſe capſules are of a paler and redder brown than in moſt other ſpecies, and from that circumſtance are eaſily diſcernible on the dark leaves; but they do not very often occur.

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LICHEN Acharii.

Acharian Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt ſmooth, a little cracked, pale brick-coloured. Shields ſunk in the cruſt, reddiſh.

SYN. Lichen Acharii. *Achar. Prod.* 33. *cum ic.*
L. lacuſtris. *With. v.* 4. 21. *t.* 31. *f.* 4. *Hull.* 290.

FOR various ſpecimens of this little-known Lichen we are indebted to the Rev. Mr. Harriman, and Mr. Oliver. It was firſt found by J. W. Griffith, eſq. in North Wales, who ſent it to Dr. Withering; and is only met with on ſuch granite ſtones, or rocks, as are occaſionally inundated, as about the bed of the Tees, and ſhores of alpine lakes, having in its moſt common ſtate the appearance of an ochraceous depoſit of the water. The cruſt, though not very thick, is firm, hard, ſmooth, and even, as if partly poliſhed, becoming more or leſs cracked by age. The colour is a pale yellowiſh brown; in ſome ſpecimens, which ſeem not otherwiſe diſtinct, dirty white. The ſhields are ſmall, pretty numerous, variouſly ſcattered, ſunk in the cruſt, concave, of a deeper or more reddiſh colour than the cruſt, ſurrounded at firſt by a pale elevated border, which afterwards diſappears. In this advanced ſtate of *L. Acharii*, we know not how to convey a better idea of it than by comparing it to a waſh of water-colour mixed up with a large portion of gum, or ſize, the numerous air-bubbles formed by which ſeem, by ſubſiding, to have left minute depreſſions ſcattered over the ſurface, and theſe depreſſions are the ſhields.

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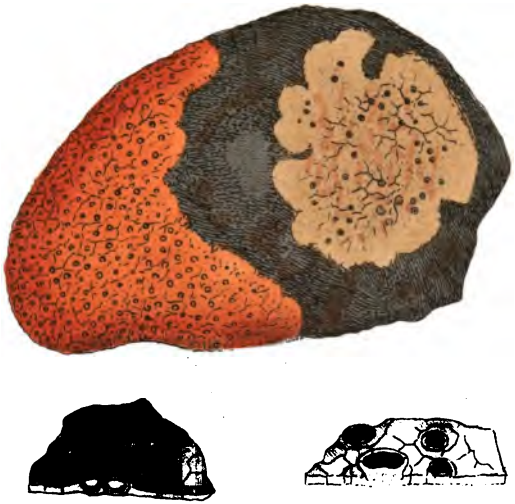

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LICHEN chryſophthalmus.

Golden-eyed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Leafy, branched, upright, yellowiſh-grey, linear, toothed and fringed. Shields orange-coloured, radiated.

SYN. Lichen chryſophthalmus. *Linn. Mant.* 311. *Achar. Prod.* 181. *Dickſ. Dr. Pl.* 21.

L. pulmonarius, minimus, ſubluteus, receptaculis florum coronatis, mali aurantii coloris. *Mich. Gen.* 75. *t.* 36. *f.* 4. *Dill. Muſc.* 74. *t.* 13. *f.* 17.

Platiſima armatum. *Hoffm. Pl. Lich. t.* 36. *f.* 1.

A POOR fiſherman from whom Mr. Sowerby has often received ſhells and other natural productions from the Weſt of England, laſt year brought him ſpecimens of this Lichen from the branches of apple-trees in Devonſhire. No perſon has before obſerved it in Britain; but we make no ſcruple to admit it on this authority, as it may have been overlooked among the varieties of *L. parietinus* growing on trees; to which however it has no other affinity than the colour of its ſhields, being of the ſame natural tribe as *L. Prunaſtri*, &c. Its ſingular beauty when examined cannot fail to attract admiration. The linear, branched fronds are ſeldom an inch high, elegantly laciniated and fringed, pale grey, more or leſs tinged with yellow. Shields numerous, terminal, rather concave, of a rich orange-colour, ſurrounded with a fringed border of the colour of the leaf. Hoffmann's *P. denudatum*, *t.* 31. *f.* 1. is only a variety without the fringe. Micheli firſt found this Lichen on pear-trees at Florence, and Dillenius merely copies his name and figure. It grows in the South of France, and at the Cape of Good Hope.

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FUCUS plicatus.

Matted Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in cluſtered tubercles, which burſt at their ſummits.

SPEC. CHAR. Frond cartilaginous, rigid, thread-ſhaped, uniform, much branched; branches cluſtered, entangled, rather inclining to one ſide. Tubercles lateral, and terminal.

SYN. Fucus plicatus. *Hudſ.* 589. *Turn. Syn.* 323. *Gooden. and Woodw. Tr. of Linn. Soc. v.* 3. 228. *With. v.* 4. 114. *Hull.* 327.

F. trichoides noſtras aurei coloris, ramulorum apicibus furcatis. *Raii Syn.* 45.

F. coralloides erectus. *Ibid.* 51.

THE ſpecimen here delineated was gathered by Mr. D. Turner on the rocks at Sheringham, Norfolk: ſee his *Synopſis*, page 328. On the ſea-ſhore this Fucus is frequently caſt up, and conſiſts of thick, matted, wiry tufts, varying from deep browniſh purple to pale pink, yellow, or a waxy white; to the latter perhaps it is reduced by the action of the air and light. The root, with which we have been hitherto unacquainted, is a ſmall expanded diſk. Fronds numerous, much branched, in a ſingularly irregular and cluſtered manner; all the branches of each cluſter moſtly leaning one way: the whole frond and branches are thread-ſhaped, and nearly of an equal thickneſs throughout. Fructification of numerous, ſmall, dark, prominent tubercles, ſcattered over the branches, and often terminating them.

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SISYMBRIUM murale.

Sand Rocket.

TETRADYNAMIA Siliquoſa.

GEN. CHAR. *Pod* cylindrical, burſting with nearly ſtraight valves. *Cal.* and *Cor.* ſpreading.

SPEC. CHAR. Pods erect. Leaves lanceolate, deeply ſerrated. Stem ſpreading, roughiſh.

SYN. Siſymbrium murale. *Linn. Sp. Pl.* 918. *Wilden. v.* 3. 496. *Dickſ. Dr. Pl.* 12.

FOR this new addition to the catalogue of Britiſh plants we are obliged to Mr. Dillwyn, who found it in 1801, growing plentifully throughout the Iſle of Thanet, particularly about Ramſgate. It thrives well on barren ſand and rubbiſh, but in richer or moiſter places becomes ſo much more luxuriant as ſcarcely to be known: in its moſt ſtarved ſtate only it anſwers to the Linnæan character *ſubacaule*. It flowers throughout the autumn, and ripens ſeed in great plenty.

Having for many years obſerved this ſpecies in a garden, we can ſpeak with certainty to its diſtinguiſhing characters. The root is truly annual, in which it differs from *S. tenuifolium* and *monenſe*. Stems branching, but often very ſhort, leafy, round, more or leſs rough with deflexed hairs. Leaves of a broad lanceolate figure, tapering at the baſe into a long foot-ſtalk; their margin deeply and irregularly ſerrated, but not pinnatifid; their colour lightiſh green, not glaucous. Long racemoſe ſtalks terminate the ſtem and branches, bearing ſeveral yellow flowers, which are ſmaller and rather paler than thoſe of the two ſpecies above mentioned. The pods are long, ſlender, and erect. Some hairs are often found on the general and partial flower-ſtalks, and (more ſparingly) on the leaves.

We preſume this plant may have been overlooked as a variety of *S. tenuifolium*, ſee *t.* 525, but they are without doubt quite diſtinct.

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GERANIUM nodoſum.
Knotty Crane's-bill.

MONADELPHIA Decandria.

Gen. Char. *Cal.* 5-leaved. *Pet.* 5, regular. *Nectary* 5 glands. *Fruit* beaked, ſeparating into 5 capſules, each tipped with a long, recurved, naked awn.

Spec. Char. Stalks two-flowered. Leaves oppoſite, three-lobed, ſerrated. Capſules even, hairy all over.

Syn. Geranium nodoſum. *Linn. Sp. Pl.* 953. *Sm. Fl. Brit.* 730. *Hudſ.* 301. *With.* 601. *Hull.* 152.
G. quintum nodoſum Plateau. *Raii Syn.* 361.

WHETHER this Crane's-bill were really to be found wild in Britain has been doubted by many botaniſts, for many have certainly ſought it in vain. The mountainous parts of Cumberland alone have been mentioned as producing it. Our ſpecimen was gathered the middle of laſt June, in rather a hilly ſituation between Hatfield and Welwyn, Hertfordſhire, by the Rev. Dr. Abbot. There is little probability of its having eſcaped from gardens; for the plant, though elegant, is ſcarcely cultivated except by botaniſts.

The root is perennial, creeping, ſomewhat tuberous. Stems a foot and half high, red and ſhining, ſwelled below the joints. Leaves oppoſite, ſtalked, ſhining, ſerrated, divided into three ſharp lobes. Flowers large, purple, ſtreaked with red, ſtanding in pairs on long, red, axillary or terminal ſtalks. Bracteæ linear, acute, red. Calyx-leaves elliptical, each tipped with a ſhort red awn. Stamina and claws of the petals fringed. Antheræ ten, all perfect. Stigmas red. Capſules elliptical, ſcarcely keeled, deſtitute of all inequalities or wrinkles, and clothed with ſhort ſoft hairs.

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MALVA rotundifolia.
Dwarf Mallow.

MONADELPHIA Polyandria.

GEN. CHAR. *Cal.* double; the outermoſt of 3 leaves. *Capſules* numerous, circularly arranged. *Seeds* ſolitary.

SPEC. CHAR. Stems proſtrate. Leaves roundiſh-heart-ſhaped, five-lobed. Fruit-ſtalks bent downward.

SYN. Malva rotundifolia. *Linn. Sp. Pl.* 969. *Sm. Fl. Brit.* 741. *Hudſ.* 307. *With.* 612. *Hull.* 155. *Relh.* 271. *Sibth.* 215. *Abbot.* 151. *Curt. Lond. faſc.* 3. *t.* 43.

M. ſylveſtris minor. *Raii Syn.* 251.

COMMON in waſte ground, by the ſides of roads and foot-paths, flowering copiouſly from June to September.

The root is annual, whitiſh, ſpindle-ſhaped, branched, abounding with mucilage like that of *M. ſylveſtris*. Stems ſeveral, proſtrate and divaricated, not much branched, clothed with numerous, roundiſh, downy, crenate leaves, plaited and cut into five or ſeven lobes, heart-ſhaped at the baſe, and ſtanding on long hairy foot-ſtalks. Flowers on ſhorter ſtalks, which grow ſeveral together from the boſom of each leaf, and which are clothed, as well as the calyx, with ſoft hairs. Corolla twice the length of the calyx, each ſegment notched, the whole of a pale purple or lilac hue. Capſules wrinkled.

We now preſume our *M. puſilla*, *v.* 4. *t.* 241, to be only a variety of this ſpecies.

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HIERACIUM Piloſella.

Mouſe-ear Hawkweed.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* nearly naked, dotted. *Cal.* imbricated, ovate. *Down* ſimple, ſeſſile.

SPEC. CHAR. Leaves elliptical, entire, downy beneath. Scions creeping. Stalk ſimple, leafleſs.

SYN. Hieracium Piloſella. *Linn. Sp. Pl.* 1125. *Sm. Fl. Brit.* 828. *Hudſ.* 343. *With.* 682. *Hull.* 175. *Relh.* 308. *Sibth.* 241. *Abbot.* 170. *Curt. Lond. faſc.* 4. *t.* 54.

Piloſella repens. *Raii Syn.* 170.

FEW plants are more common than the *Hieracium Piloſella* in dry expoſed places, ſuch as gravelly banks, ſunny lawns, and the tops of park walls, where it bloſſoms from May to the end of July, preſenting its elegant ſulphur-coloured flowers to the noontide ſun, while the ſurrounding herbage, and even its own foliage, is withered and burnt up.

The roots are perennial, creeping by means of leafy ſcions protruded from their crown. Leaves ſpreading, elliptical, entire, of a ſmooth, but not poliſhed, green above, ſprinkled with rigid hairs that become tawny when dried; underneath the leaves are clothed with a denſe white coat of down, intermixed alſo with hairs. Stalks one, two, or three from the crown of the root, erect, ſimple, round, hairy, deſtitute of leaves, except now and then a ſmall bractea, and each bearing one flower whoſe calyx is rough with black hairs intermingled with white. The florets are narrow, toothed at the end, pale yellow above, remarkable for being elegantly ſtriped with red beneath. Receptacle rough with ſhort briſtles. Seeds brown, ſtriated, crowned with rough rigid down.

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HIERACIUM paludoſum.

Succory-leaved Hawkweed.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* nearly naked, dotted. *Cal.* imbricated, ovate. *Down* ſimple, ſeſſile.

SPEC. CHAR. Stem panicled, hollow. Leaves toothed, ſmooth, embracing the ſtem with their heart-ſhaped baſe. Calyx rough.

SYN. Hieracium paludoſum. *Linn. Sp. Pl.* 1129. *Sm. Fl. Brit.* 831. *Hudſ.* 345. *With.* 686. *Hull.* 176. *Lightf.* 438.

H. montanum cichorei folio noſtras. *Raii Syn.* 166.

WILD ſpecimens of the plant here delineated were ſent from North Wales by Mr. Turner, and from Yorkſhire by Mr. Hailſtone, in July and Auguſt laſt. It is generally eſteemed a rare ſpecies, and indeed is only to be found in our moſt mountainous counties, where it delights in moiſt ſhady places. We have formerly ſeen it cultivated with ſucceſs even in a ſmoky London garden for ſeveral years; and it is remarkable that ſome of the moſt alpine plants, as *Angelica Archangelica*, thrive beſt in ſuch an atmoſphere.

The root is perennial, formed of many downy fibres. Herb ſmooth, intenſely bitter. Stem angular, leafy, hollow, panicled above but ſimple in the lower part, leafy. Leaves alternate, ſomewhat elliptical, toothed, ſharp-pointed, claſping the ſtem with their heartſhaped baſe. Panicle corymboſe, ſpreading, furniſhed with a few ſmall ciliated bracteæ. Calyx rough with black prominent hairs. Corolla bright full yellow. Receptacle naked. Seed pale-brown. Down rough.

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LEMNA minor.

Leſſer Duck-weed.

MONOECIA Diandria.

GEN. CHAR. Male, *Cal.* of 1 leaf. *Cor.* none.
Female, *Cal.* of 1 leaf. *Cor.* none. *Style* 1. *Capſ.* with ſeveral ſeeds.

SPEC. CHAR. Leaves ſeſſile, nearly flat on both ſides. Roots ſolitary.

SYN. Lemna minor. *Linn. Sp. Pl.* 1376. *Sm. Fl. Brit.* 957. *Hudſ.* 399. *With.* 44. *Hull.* 202. *Relh.* 359. *Sibth.* 14. *Abbot.* 198.
Lens paluſtris. *Raii Syn.* 129. *t.* 4. *f.* 1.

ANOTHER *Lemna* in fructification (ſee *L. triſulca*, *v.* 13, *t.* 926) has been fortunately communicated to us by Mr. W. Borrer. This ſpecies is very common in ſtagnant pools, floating on the ſurface; but its flowers, though deſcribed by ſome foreign writers, have not till now been noticed in Britain. They are produced in the middle of ſummer, after which ſeaſon the plant decays, and as it is acknowledged to be an annual, they muſt be conſtantly produced; unleſs the herb may be propagated by fragments of itſelf ſinking to the bottom of the water, rooting in the mud, and in due time forming leaves, which become buoyant by means of the air generated in their cells. However this may be, we are perſuaded the long ſolitary fibrous roots, tipped with a ſheath as in other ſpecies, are of temporary uſe, and do not themſelves form offsets.

The leaves are elliptical, and ſomewhat proliferous as in *L. triſulca*, but much ſmaller and more ſucculent, entire at their margin, ſlightly convex beneath, of a pale green in every part. Flowers from a marginal chink, always, as it appears to us, hermaphrodite, and having a two-valved calyx (or perhaps corolla) much more evident than in *L. triſulca*; ſo that probably the generic character may hereafter be altered with advantage if the remaining ſpecies agree with this.

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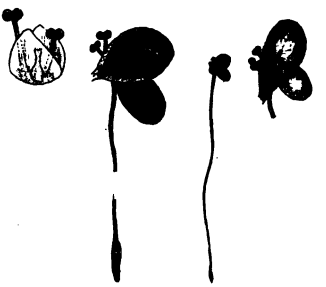

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CAREX divisa.

Bracteated Marsh Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike once or twice compounded; spikelets all androgynous. Bractea leafy, erect. Fruit not spreading. Root creeping.

SYN. Carex divisa. *Hudf.* 405. *Sm. Fl. Brit.* 973. *Gooden. Tr. of Linn. Soc. v.* 2. 157. *t.* 19. *f.* 2. *With.* 92. *Hull.* 205.

Gramen cyperoides ex monte Ballon, spicâ divulsâ. *Raii Syn.* 423.

THIS rare Carex was gathered at Kennington by Mr. Groult, a very accurate observer. It grows in marshy places, flowering in May and June, and is most likely to be found not very far from the sea, or at least within the reach of the fresh-water tide.

Root perennial, creeping horizontally to a considerable extent, black, strong and twisted. Stems upright, weak, above a foot high, naked, triangular, roughish in the upper part. Leaves bright green, narrow, erect, various in length. Spike scarcely an inch long, ovate, compound, sometimes subdivided at the base, dense and compressed, of a brown, not reddish, hue. Spikelets several, irregularly clustered, ovate, all androgynous, the female flowers undermost and most numerous. A long narrow leafy triangular acute bractea stands under the lowest spikelet, generally rising much above the uppermost. Glumes elliptical, sharp, brown with a pale or greenish keel and a slightly membranous edge. Fruit shorter than the glumes, ovate, with a rough dilated margin, cloven at the point. Stamina three. Stigmas two, brown, very long and slender.

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CAREX muricata.

Greater Prickly Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 ſcale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 ſcale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a ſwelling tunic.

SPEC. CHAR. Spike oblong, once or twice compounded, prickly; ſpikelets androgynous. Fruit divaricated, pointed, cloven. Root fibrous.

SYN. Carex muricata. *Linn. Sp. Pl.* 1382. *Sm. Fl. Brit.* 974. *Gooden. Tr. of Linn. Soc. v.* 2. 158. *With.* 92. *Hull.* 205. *Relh.* 364.

C. ſpicata. *Hudſ.* 405. *Sibth.* 27. *Abbot.* 201. *Lightf.* 548.

Gramen cyperoides ſpicatum minus. *Raii Syn.* 424.

FREQUENT in rather moiſt paſtures and ſhady places, flowering in May or June.

The root is perennial, fibrous, ſcarcely creeping. The herbage of a bright green. Stem upright and ſtraight, 12 or 18 inches high, naked except at the baſe, triangular, the angles rough upwards. Leaves flattiſh, narrow, taller than the ſtem, rough on the edges and keel. Spike oblong, an inch or more in length, cylindrical, blunt; a little interrupted and (though rarely) ſometimes branched at the baſe. Spikelets various in number, roundiſh, rather crowded, the male flowers above the female. Bracteæ ovate, membranous, the loweſt eſpecially tipped with a narrow rough leafy point. Glumes ovate, brown with a green keel. Fruit ſpreading every way, ovate, convex on one ſide, green, at length brown, rough at the margin towards the top, deeply cloven at the point. Stigmas two.

By a compariſon with *t.* 806 it will be ſeen in what particulars this differs from *C. muricata* of Hudſon, our *ſtellulata*.

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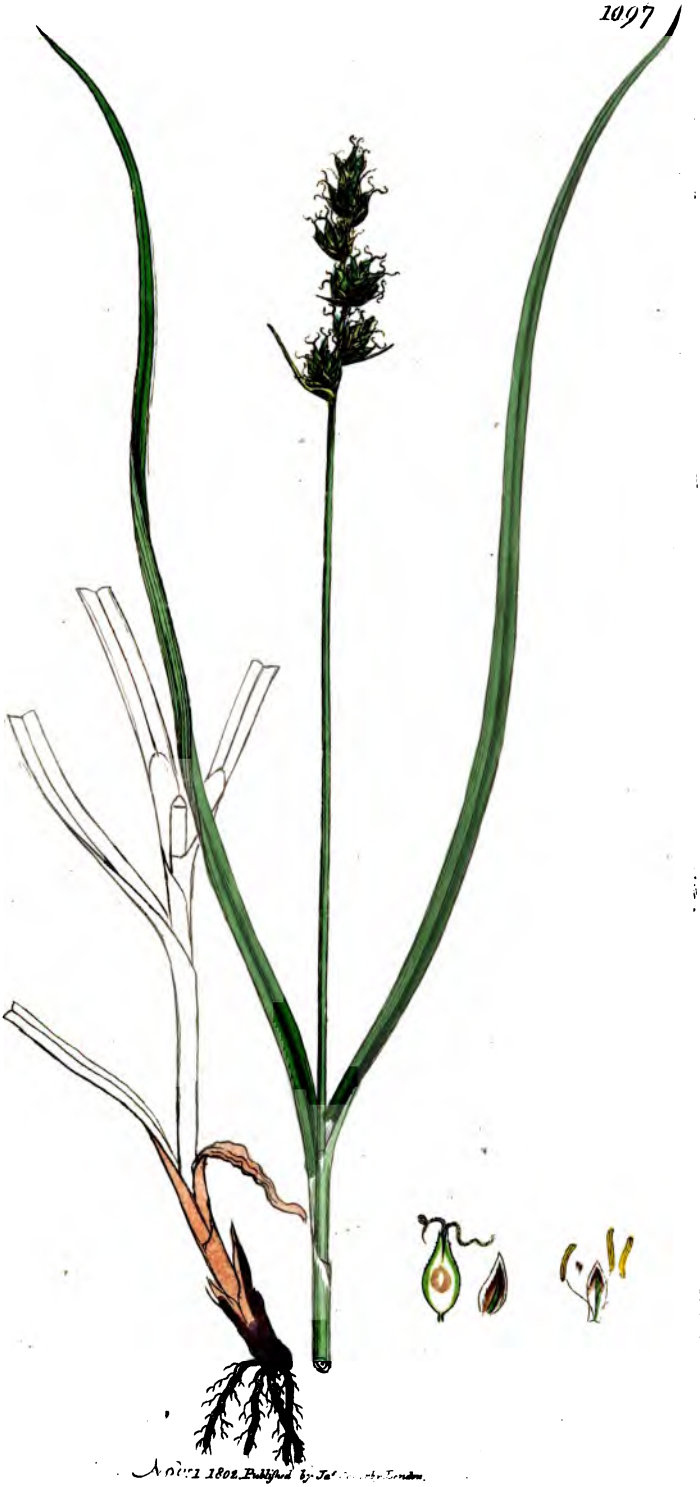

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CAREX depauperata.

Starved Wood Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 ſcale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 ſcale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a ſwelling tunic.

SPEC. CHAR. Sheaths much ſhorter than the flower-ſtalk. Female ſpikes diſtant, erect, of but few flowers. Fruit inflated, beaked.

SYN. Carex depauperata. *Gooden. Tr. of Linn. Soc. v.* 2. 181. *Sm. Fl. Brit.* 984. *With.* 102. *Hull.* 207.

C. ventricoſa. *Curt. Lond. faſc.* 6. *t.* 68.

C. triflora. *Wilden. Phyt. faſc.* 1. 2. *t.* 1. *f.* 2.

Cyperoides veſicarium humile, locuſtis rarioribus. *Tourn. Inſt.* 530.

THE name of *depauperata*, firſt given to this Carex, and retained by Dr. Goodenough, is ſo much more apt than *ventricoſa*, that we are aſtoniſhed Mr. Curtis ſhould have changed it for the latter, which is equally ſuitable to many others of the genus. See *Fl. Lond.*

C. depauperata, though known to Tournefort, as appears by his herbarium, and figured in Micheli, *t.* 32. *f.* 5, was neglected by recent botaniſts till Dr. Goodenough found it in Charlton wood, from whence our ſpecimen was taken in the middle of laſt July. The root is perennial and fibrous. Stem a foot and half high, ſlender, ſmooth, bluntly triangular, bearing a few long-ſheathed diſtant leaves, the 3 or 4 uppermoſt of which become bracteæ, and their ſheaths cloſely enfold the ſlender upright ſtalks of the female ſpikes, ſometimes for a third part of their length, ſometimes for more than half. Each of theſe ſpikes conſiſts of about 3 (rarely more or leſs) florets, with ovate or obovate ſmooth glumes. The male ſpike is ſolitary, terminal and erect. Fruit inflated, ribbed, ſmooth, with a long, ſlightly notched beak. Stigmas 3. Seed triangular, obtuſe, of a ſhining brown. This ſpecies comes next to *C. ſylvatica*, *v.* 14, *t.* 995, in character and habit.

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CAREX præcox.

Vernal Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 ſcale. *Cor.* none. Female, *Catkin* imbricated *Cal.* of one ſcale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a ſwelling tunic.

SPEC. CHAR. Sheaths ſhort, nearly equal to the flower-ſtalk. Spikes ovate, rather cluſtered. Glumes tipped with a ſmall point. Fruit roundiſh, downy.

SYN. Carex præcox. *Sm. Fl. Brit.* 994. *Gooden. Tr. of Linn. Soc. v.* 2. 170. *With.* 97. *Hull.* 206. *Relh.* 367. *Sibth.* 29. *Abbot.* 205.

C. ſaxatilis. *Hudſ.* 408.

Gramen cyperoides vernum minimum. *Raii Syn.* 421.

DRY paſtures, heaths, and expoſed ſituations abound with this Carex, which is rendered conſpicuous in the ſpring by its numerous tufted yellow antheræ. It is the earlieſt of its genus, in this country as well as in Germany. The name of *præcox* was firſt given, we believe, by the celebrated Profeſſor Schreber, for Linnæus never determined this ſpecies, and our Britiſh botaniſts erroneouſly conſidered it as either the *ſaxatilis* or *montana* of the illuſtrious Swede.

Its perennial root creeps, and branches out into ſeveral leafy tufts. The ſtem aſcends obliquely to the height of from 3 to 6 inches, and is firm, triangular, ſmooth and naked. Leaves radical, ſhort, rigid, acute, recurved, roughiſh, eſpecially at the edges. Bracteæ erect, often wanting; their ſheaths ſhort, dilated upwards. Male ſpike obovate, and rather obtuſe, eſpecially when the antheræ are not expanded. Glumes elliptical or ovate, thoſe of the female florets more particularly pointed. Female ſpikes about two, erect, near together, on ſhortiſh ſtalks. Fruit roundiſh, or ſomewhat pear-ſhaped, downy, green tipped with brown, ſcarcely ſo long as the glumes. Stigmas three. Seed whitiſh, triangular.

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JUNIPERUS communis.

Common Juniper.

DIOECIA Monadelphia.

GEN. CHAR. Male, *Cal.* ſcales of a catkin. *Cor.* none. *Stam.* 3. Female, *Cal.* ſcales of a catkin, fewer, at length pulpy, united into a *berry* with 3 *ſeeds.*

SPEC. CHAR. Leaves three together, ſpreading, tipped with a ſpine, and longer than the ripe fruit.

SYN. Juniperus communis. *Linn. Sp. Pl.* 1470. *Hudſ.* 436. *With.* 599. *Hull.* 222. *Relh.* 392. *Sibth.* 210. *Woodv. Med. Bot. t.* 95.

J. vulgaris, baccis parvis purpureis. *Raii Syn.* 444.

β. J. alpina. *Raii Syn.* 444.

SENT us by the Rev. Dr. Abbot from Juniper-hill between Middleton-ſtony and Oxford early in June laſt. This ſhrub delights in open hilly ſpots on a limeſtone ſoil, and grows abundantly in ſuch places, though by no means a general Britiſh plant.

The ſtrong woody intricate ſtems and branches ſpread widely, and are clothed with ſmooth, pungent, linear, evergreen, ſpreading leaves, glaucous on their upper ſide, placed three together in alternate parcels. Catkins dioecious, axillary, ſolitary, ſeſſile, ſmall, accompanied by imbricated bracteæ. Antheræ creſted, yellow, at length brown. Berry globoſe, dark purple with a glaucous tinge, ſweetiſh; formed of the confluent ſcales of the female catkin, and containing three oblong, angular ſeeds, to which are attached little veſicles full of the ſame turpentine-like eſſential oil which is diffuſed throughout the whole ſhrub, and which is procured from the berries by diſtillation, for medicinal purpoſes.——The alpine variety β (for we can ſcarcely believe it a ſpecies) is more humble in its growth, and has broader leaves with rather oblong berries.

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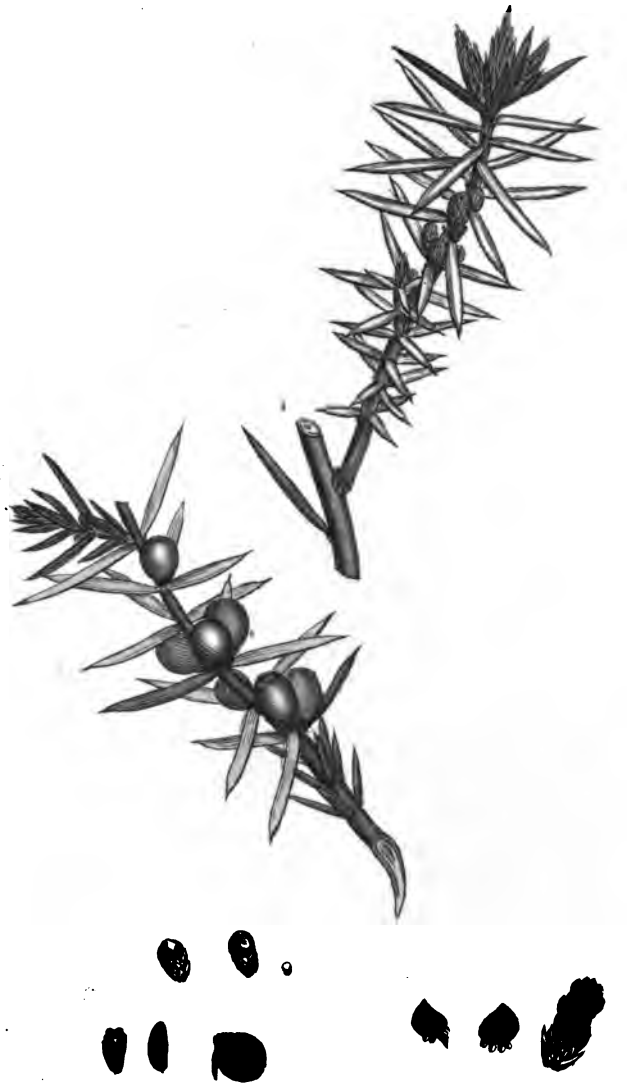

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TORTULA ſubulata.

Awl-ſhaped Tortula.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Fringe* ſimple, of numerous capillary teeth, ſpirally and repeatedly twiſted together.

SPEC. CHAR. Stem nearly ſimple, ſhort. Leaves ovato-lanceolate, bearded, entire. Capſule cylindrical. Lid awlſhaped.

SYN. Tortula ſubulata. *Hedw. Sp. Muſc.* 122. *t.* 27. *Swartz. Muſc. Suec.* 39. *Sibth.* 284.

Bryum ſubulatum. *Linn. Sp. Pl.* 1581. *Hudſ.* 476. *With.* 832. *Hull.* 263. *Relh.* 423. *Abbot.* 242. *Curt. Lond. faſc.* 3. *t.* 66. *Dickſ. H. Sicc. faſc.* 14. 19.

B. capſulis longis ſubulatis. *Dill. Muſc.* 350. *t.* 45. *f.* 10.

B. erectis longis et acutis falcatis capitulis, calyptra ſubfuſca, foliis ſerpylli pellucidis. *Raii Syn.* 92.

THOUGH common here in damp ſhady places, Dr. Swartz informs me this moſs is very rare in Sweden, and indeed I have obſerved it to be, as Lightfoot ſays, rather unfrequent in Scotland. Its fruit ripens in March and April, and the roots ſeem to be annual.

The plants form denſe tufts, eaſily diſcoverable by the broad roſaceous entire leaves, of a bright green colour, of which the lowermoſt are ſmalleſt, the reſt moſt ovate, all furniſhed with a central rib, and tipped with a ſhort beard or briſtly point. Fruit-ſtalk an inch high, tawny red, bearing a long, cylindrical, ſlender, upright capſule, which becomes ſlightly curved, and of a brown colour, in ripening. The veil and lid are long and tapering. The mouth is fringed with a ſimple row of numerous, white, capillary teeth, cloſely and ſpirally twiſted together, apparently united or conglutinated for almoſt their whole length, but divaricated at the ſummit. This peculiar fringe characterizes the genus, to which belongs our *Bryum rigidum*, *v.* 3. *t.* 180, for we beg leave to unite the *Barbula* and *Tortula* of Hedwig into one genus.

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LICHEN atro-rufus.

Red-brown Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.

Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt lobed, angular, ſmooth, of a whitiſh brown. Shields ſeſſile, flattiſh, dark red brown with a blackiſh narrow border; at length confluent.

SYN. Lichen atro-rufus. *Dickſ. Crypt. faſc.* 4. 22. *t.* 12. *f.* 4.

FOUND by Mr. Dickſon, on a hill near Penrith, Cumberland, growing on the red ſandy ground among moſſes. We have received it, along with a moſt valuable collection of Lichens beſides, from the Rev. Mr. Harriman of Eggleſton, Durham. Dr. Acharius ſeems unacquainted with this ſpecies, and we are at a loſs whether to refer it to his 6th ſection (*Patellaria*) or to his 10th (*Pſeroma*). The cruſt is certainly lobed and angular, not leprous, nor undefined; its colour when young is white, but afterwards more or leſs browniſh; the ſurface ſmooth, and, though leſs imbricated, it in ſome degree approaches the ſtructure of *L. luridus*, *Acbar.* 95. The ſhields are very numerous, ſeſſile, of a dark reddiſh brown, with a narrow ſtill darker border; they are at firſt flat, but afterwards become rather tumid, confluent, and extremely irregular in form. They are at all times very ſmooth, and, when wet, ſlightly pellucid or waxy.

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LICHEN fuliginoſus.
Sooty leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Membranous, ſpreading, roundly lobed, dark greeniſh grey, rough with blackiſh granulations: beneath downy, with white pits. Shields red brown, with a pale border.

SYN. Lichen fuliginoſus. *Dickſ. Crypt. faſc.* 1. 13. *With. v.* 4. 70. *Hull.* 299. *Achar. Prod.* 158. Lichenoides fuliginoſum et pulverulentum, ſcutellis rubiginoſis. *Dill. Muſc.* 198. *t.* 26. *f.* 100. A.

FOUND on rocks, as well as on trees in old dark woods, but only in the alpine counties. We have gathered it about Ambleſide, Weſtmoreland, and at Hafod, Cardiganſhire. Mr. E. Forſter found it in Rookwood grove, at Boconnoc, Cornwall, and Dillenius, Mr. Griffith and Mr. D. Turner in North Wales.

The fronds ſpread from a centre in a looſely imbricated manner among moſs, generally on the trunks of trees, eſpecially hazels and thorns. Their texture is membranous and pliable; their lobes rounded, various in ſize; their upper ſide rather rugoſe, of a greyiſh or greeniſh brown, ſprinkled all over with rough, dark-coloured warts or granulations; their under ſide pale reddiſh brown, downy, dotted with ſmall, white, ſmooth, ſcattered pits. The ſhields are of very rare occurrence, ſtanding for the moſt part near the margin, ſmall, ſlightly elevated, having a ruſty-brown diſc, elevated by age, and a narrow, pale, entire border, which is obliterated as the ſhields grow old.——This has been confounded with *L. ſylvaticus*, with which it agrees in a certain fœtid ſmell when moiſt, and ſomewhat in colour; but differs widely in fructification, as well as in the ſize and roundneſs of the lobes.

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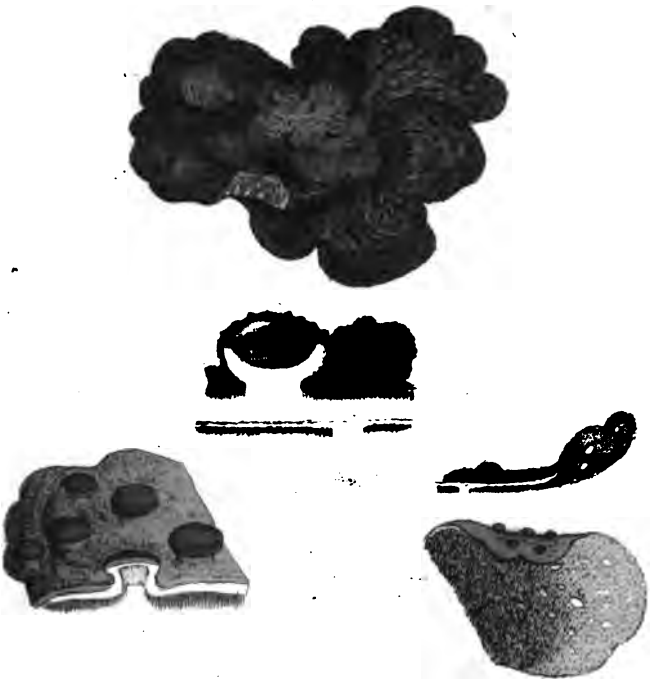

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LICHEN limbatus.

Mealy-bordered leafy Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts.
Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Membranous, ſpreading, roundly lobed, glaucous brown, ſmooth; grey and powdery towards the margin: beneath downy, with white pits. Shields brown.

SYN. Lichenoidis, *Dill. Muſc.* 198. *t.* 26. *f.* 100, varietas farinoſa, B, C.

WE have long ago obſerved this Lichen, at the roots of trees, and on ſhady moſſy rocks at the Hermitage near Edinburgh, as well as growing with *L. fuliginoſus* at Hafod, and are convinced of its being diſtinct from that ſpecies, which Dillenius (who gathered the ſame in Bagley wood, Oxfordſhire) ſeems alſo inclined to ſuſpect. The fructification was found by Mr. Menzies in Scotland, and by Mr. D. Turner upon Snowdon. Neither we nor Dillenius could ever diſcover it.

In form this reſembles the preceding, but differs a little in colour, being of a glaucous brown. The chief difference conſiſts in the ſurface being deſtitute of rough granulated warts, and on the contrary quite ſmooth and poliſhed, except towards the margin, which is profuſely covered with grey or pale lead-coloured mealineſs, produced from cracks in the cuticle, and not at all of the nature of a paraſitical *Byſſus*, as Dillenius ſuppoſes; neither can this be the male, or "powder-bearing plant" of the former, for it has proper ſhields of its own, though rarely produced, which differ from thoſe of *L. fuliginoſus* in having a broad baſe, or rather being imbedded in the frond, which riſing around them forms a ſlightly elevated border, that ſlopes off into the common level of the ſurface, and is not contracted into any thing like a footſtalk. The under ſide of the frond is like the laſt.

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LYCOPUS europæus.

Water Horehound.

DIANDRIA Monogynia.

GEN. CHAR. *Cor.* four-cleft; one of its lobes notched. *Stam.* diſtant. *Seeds* 4, naked, blunt.

SPEC. CHAR. Leaves deeply ſerrated.

SYN. Lycopus europæus. *Linn. Sp. Pl.* 30. *Sm. Fl. Brit.* 29. *Hudſ.* 9. *With.* 20. *Hull.* 6. *Relh.* 11. *Sibth.* 8. *Abbot.* 6. *Curt. Lond. faſc.* 3. *t.* 2.

L. paluſtris glaber. *Raii Syn.* 236.

THIS plant is very frequently to be ſeen about the banks of rivers, ditches and pools, eſpecially where the ſoil is ſandy and the water clear, flowering plentifully in July and Auguſt.

Root perennial, creeping. Stem erect, two feet high, ſquare, leafy, roughiſh. Leaves oppoſite, on ſhort ſtalks, lanceolate or ovate, acute, deeply and coarſely ſerrated, ſometimes pinnatifid, particularly towards their baſe: they are roughiſh on both ſides, and marked beneath with reſinous dots, as in the Mints, but have no aromatic ſmell. Flowers numerous, in axillary whorls, ſometimes fragrant in hot weather. Calyx downy, with ſharp briſtly teeth. Corolla white, prettily dotted with purple about the orifice, and hairy within. Stamina two, ſometimes four. Antheræ with two acute lobes. Seeds four, obovate, blunt, ſquare, and furrowed on each ſide.

The glandular dots, form of the corolla, and whole habit ſhow the affinity of this plant to *Mentha*; but we believe the ſeeds would ſerve ſufficiently to diſtinguiſh it without adverting to the number of its ſtamina.

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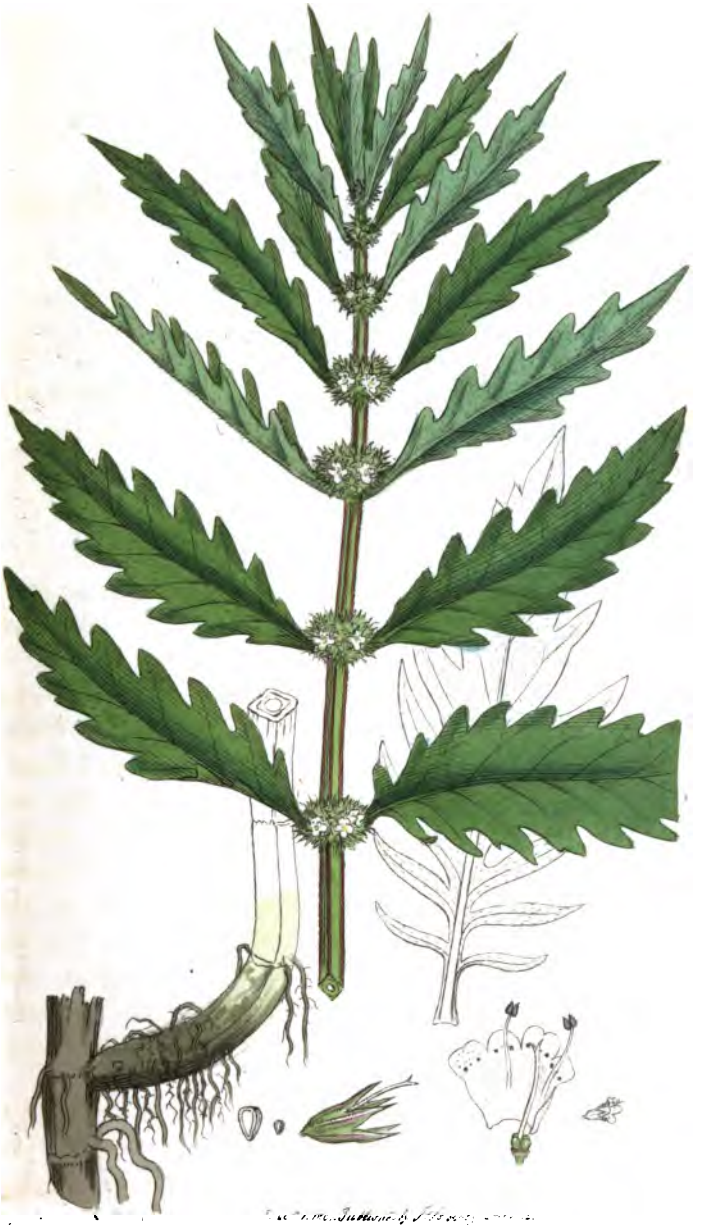

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MILIUM effuſum.

Spreading Millet-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, ſingle-flowered, tumid. *Seed* inveſted with the permanent hardened corolla.

SPEC. CHAR. Flowers looſely panicled, awnleſs.

SYN. Milium effuſum. *Linn. Sp. Pl.* 90. *Sm. Fl. Brit.* 75. *Hudſ.* 29. *With.* 122. *Hull.* 17. *Relh.* 26. *Sibth.* 35. *Abbot.* 13. *Curt. Lond. faſc.* 4. *t.* 12.

Gramen miliaceum. *Raii Syn.* 402.

AN elegant graſs, not unuſual in moiſt ſhady places, flowering in June and July.

The root is fibrous, bearing one or more ſtems, and throwing out ſeveral procumbent ſhoots that produce radicles from their joints. Hence the plant appears to be, as Linnæus and Curtis aſſert, perennial; and having never cultivated it, we have no ſolid grounds for ſupporting a contrary opinion; nevertheleſs, ſeveral truly annual plants, as *Poa annua* and ſome ſpecies of *Polygonum*, do take freſh root during the ſummer in a ſimilar manner, and it only remains to be examined whether theſe offsets of the *Milium* flower the ſame ſeaſon with their parent or not.

The ſtems are erect, 2 or 3 feet high, leafy, ſmooth. Leaves broad, flat, roughiſh on the margin, and crowned with an oblong ſtipula. Panicle erect, lax and widely ſpreading, formed of ſeveral alternate faſcicles of variouſly branched capillary flowerſtalks. Flowers pale whitiſh green. Calyx-valves elliptical, concave, 3-ribbed, beardleſs, nearly equal. Corolla of the ſame form but ſmaller, ſmooth, nerveleſs, becoming at length horny, the outer valve being ſmaller, embracing the inner valve and the ſeed.

Mr. Curtis juſtly points out the affinity of this graſs to the genus *Panicum*, and we think the generic character ought, as in that, to be founded on the hard permanent corolla.

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MILIUM lendigerum.

Panick Millet-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, ſingle-flowered, tumid. *Seed* inveſted with the permanent hardened corolla.

SPEC. CHAR. Panicle cloſe and ſpiked. Corolla awned.

SYN. Milium lendigerum. *Linn. Sp. Pl.* 91. *Sm. Fl. Brit.* 76. *With.* 122. *Hull.* 17.

Agroſtis auſtralis. *Linn. Mant.* 1. 30.

A. rubra. *Hudſ. ed.* 1. 26.

A. ventricoſa. *Gouan. Hort.* 39. *t.* 1. *f.* 2.

Alopecurus ventricoſus. *Hudſ. ed.* 2. 28.

Panicum ſerotinum arvenſe, ſpicâ pyramidatâ. *Raii Syn.* 394.

IT is difficult to draw a line between the characters of *Milium* and *Agroſtis*, nor is the Linnæan definition of the latter correct; hence there will be found in the *Fl. Brit.* a contrariety between that definition (too incautiouſly adopted) and the particular deſcriptions copied from nature. If the corolla of *Agroſtis* be deſcribed *membranous*, inſtead of "larger than the calyx," it will probably remove the difficulty. The graſs now before us Linnæus has unconſciouſly mentioned under both genera. We conſider it as a *Milium*, becauſe the corolla hardens as the ſeed ripens, and cloſely enfolds it: in the true ſpecies of *Agroſtis* that part continues membranous and laxly ſpreading, though we muſt confeſs *A. Spica venti* (*t.* 951) does not correctly anſwer to this deſcription, nor *A. miliacea*, which laſt is ſurely a *Milium*.

M. lendigerum is an annual graſs, growing (though rarely) in ſuch fields as are occaſionally overflowed, and flowering in Auguſt. Its ſtem is branched, erect, leafy. Whole herb pale green, not red. Panicle upright, denſe, ſpike-ſhaped. Calyx ſmooth, poliſhed and ſwelling at the baſe; tapering and rough upwards. Corolla ſhort, ovate, downy, moſtly awned; the inner valve narroweſt and beardleſs. We know this to be the *Agroſtis rubra* of Hudſon's firſt edition; that of Linnæus is by no means well aſcertained.

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LATHYRUS latifolius.

Broad-leaved Everlaſting Pea.

DIADELPHIA Decandria.

GEN. CHAR. *Style* flattened, downy above, broader upwards. Two upper ſegments of the *calyx* ſhorteſt.

SPEC. CHAR. Several flowers on a ſtalk. Tendrils bearing a pair of elliptical leaves. Stem winged.

SYN. Lathyrus latifolius. *Linn. Sp. Pl.* 1033. *Sm. Fl. Brit.* 766. *Hudſ.* 316. *With.* 634. *Hull.* 161. *Relh.* 280. *Abbot.* 156. *Mart. Fl. Ruſt. t.* 8.

L. major latifolius. *Raii Syn.* 319.

COMMUNICATED by the Rev. Dr. Abbot from Hawnes and Bromham, Bedfordſhire. It is a rare and, as many perſons think, a doubtful native, though Ray ſeems to have had ſufficient authority to believe it indigenous. Poſſibly it may have eſcaped from gardens to ſome of the woodland ſituations where it now appears naturalized. Few Britiſh plants are more ornamental, either in a ſunny expoſure or ſhady ſituation, it being covered with beautiful roſe-coloured flowers throughout July and Auguſt. The deeply branching roots continue for a great number of years without ſpreading from their original ſtation, and throw up numerous annual climbing winged and branched ſtems, like thoſe of *L. ſylveſtris, t.* 805. From that ſpecies it differs in being of a more glaucous hue, in having broad elliptical leaflets, more branching tendrils, and broader more ovate ſtipulæ. The flowers alſo are larger, of a much more vivid red colour, and have the lower teeth of their calyx ſomewhat more elongated.

The prodigious crop yielded by this plant, and the laſting nature of its roots even on a barren ſoil, ſeem to render it a fit object for agricultural experiments.

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HEDYPNOIS Taraxici.

Alpine Hedypnois.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* naked, dotted. *Cal.* imbricated, with ſcales at the baſe. *Down* feathery, ſeſſile, unequal.

SPEC. CHAR. Stalks moſtly ſingle-flowered. Leaves ſmooth, toothed; the teeth recurved. Calyx hairy.

SYN. Hedypnois Taraxici. *Sm. Fl. Brit.* 825.

H. autumnale ε. *Hudſ.* 341.

Hieracium Taraxici. *Linn. Sp. Pl.* 1125. *With.* 683. *Hull.* 175. *Lightf.* 435. *Dickſ. H. Sicc. faſc.* 17. 15.

THE late Mr. J. Mackay, to whom we are obliged for many ſpecimens of this rare plant, mentioned it as growing in moiſt places on ſeveral of the Highland mountains. Lightfoot gathered it in Skye, and Hudſon in Wales, but few travellers have noticed it.

The root is perennial, abruptly bitten off, producing long ſimple lateral fibres, and the flowers appear in Auguſt. The herbage is variable, the leaves being either lanceolate and almoſt linear, or ſpatulate and obovate; their teeth alſo vary greatly in ſize or prominence, but are always more or leſs runcinate, or hooked backwards. The ſurface of the leaves is ſmooth. The ſtalk or ſtalks vary in length. Though generally ſimple, they are ſometimes divided. They ſwell upwards, and there aſſume a denſe black hairineſs, continued all over the calyx. One or two awl-ſhaped bracteæ are found on the ſtalk. The florets are of a full yellow, with browniſh teeth at the ſummit. Receptacle naked. Seeds angular and rough. Down finely feathery, ſeſſile, though the germen ſeems ſurmounted with a taper neck reſembling a footſtalk, but as the ſeed ſwells this appearance vaniſhes.

Dr. Solander, who firſt found a ſingle ſpecimen of this plant in Lapland, conceived it to be a mule production between *Hieracium alpinum* and *Leontodon Taraxacum*, but we find nothing to countenance ſuch an opinion.

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HIERACIUM alpinum.

Alpine ſingle-flowered Hawkweed.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* nearly naked, dotted. *Cal.* imbricated, ovate. *Down* ſimple, ſeſſile.

SPEC. CHAR. Leaves oblong, undivided, entire or toothed. Stalk almoſt leafleſs, ſingle-flowered. Calyx hairy.

SYN. Hieracium alpinum. *Linn. Sp. Pl.* 1124. *Sm. Fl. Brit.* 827. *Hudſ.* 343. *With.* 683. *Hull.* 175. *Lightf.* 434. *t.* 18.

H. villoſum alpinum, flore magno ſingulari, caule nudo. *Dill. in Raii Syn.* 169. *t.* 6. *f.* 2.

RAY was acquainted with this plant, but took it for *Hieracium quintum villoſum* of Cluſius (*H. villoſum* of Linnæus), an error rightly corrected by Dillenius. It grows on rocky parts of the high mountains of Wales and Scotland, flowering in July.

Root perennial, abrupt, with ſeveral long ſtrong fibres. Whole herb clothed with prominent hoary rigid hairs, yellowiſh brown at their baſe. Leaves almoſt all radical, obovate, not broad, undivided, either entire or more or leſs toothed and undulated. Stalk ſolitary, erect, ſimple, round, darker coloured in the upper part, bearing generally one leaf near its baſe, and a ſmall bractea higher up. Calyx dark-coloured and very hairy. Corolla large, of a full yellow. Tube of each floret hairy. Seeds obovate, angular, dotted. Down ſeſſile, rough. Receptacle naked.

The fructification of this *Hieracium*, when accurately compared with *Hedypnois Taraxici*, is too unlike to warrant the ſuppoſition of the latter being its hybrid offspring, though appearances might at firſt ſight ſeem to countenance ſuch an idea. Linnæus however eagerly graſped at his ingenious pupil's ſuggeſtion, and has too poſitively inſiſted on it in his *Sp. Plant.* and Diſquiſition on the Sexes of Plants.

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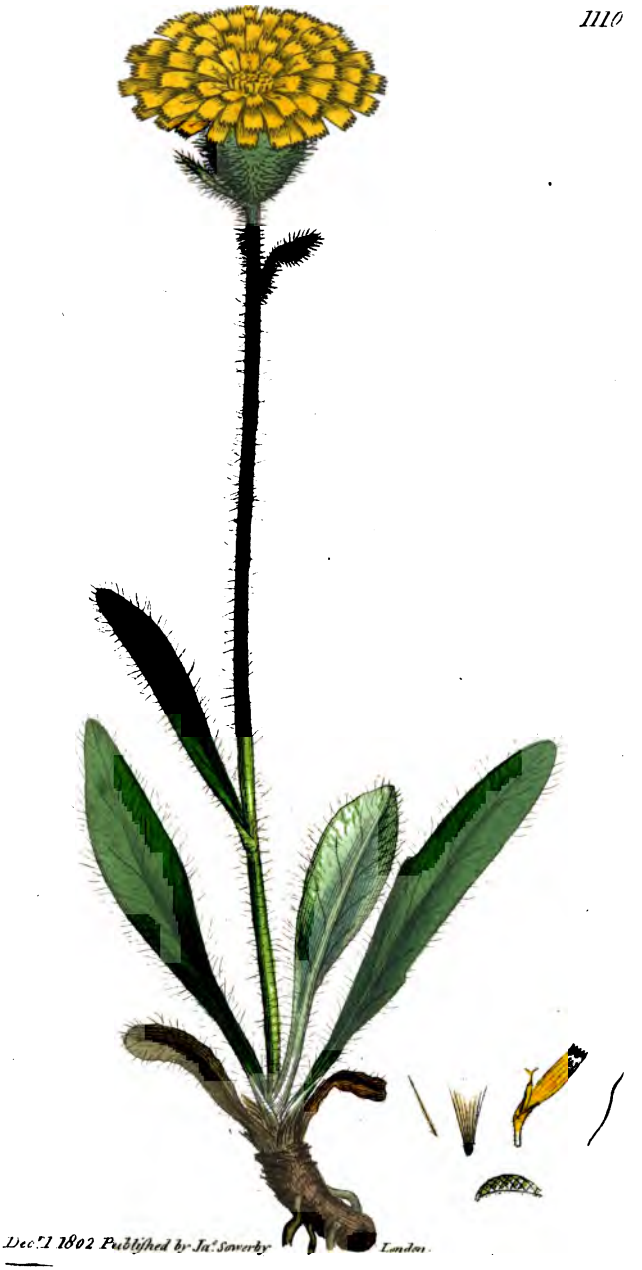

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CREPIS tectorum.
Smooth Hawk's-beard.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* roughiſh. *Cal.* ſurrounded with deciduous ſcales, and at length ſwelling into protuberances. *Down* ſimple, generally on a foot-ſtalk.

SPEC. CHAR. Radical leaves runcinate: the reſt embracing the ſtem, lanceolate and toothed. Stem ſmooth.

SYN. Crepis tectorum. *Linn. Sp. Pl.* 1135. *Sm. Fl. Brit.* 837. *With.* 689. *Hull.* 174. *Relh.* 310. *Sibth.* 240. *Abbot.* 172. *Curt. Lond. faſc.* 5. *t.* 55.

Hedypnois tectorum. *Hudſ.* 341.

Hieracium luteum glabrum, ſive minùs hirſutum. *Raii Syn.* 165.

NOTHING can be more common than this *Crepis* in dry waſte places, on walls, rubbiſh, and banks, flowering from June to the end of September.

Root annual, tapering. Herb very various in ſize, ſtrength and luxuriance. Stem upright, branched, furrowed, ſmooth, or very rarely a little hairy, generally ſtained with purple juſt above each ramification. Leaves ſmooth, bright green; the radical ones runcinate; the reſt claſping the ſtem with an arrow-ſhaped baſe, and more or leſs deeply toothed above their inſertion. Panicle upright, forked, corymboſe, roughiſh, furniſhed with ſmall leaves. Flowers bright yellow, much ſmaller than in any other common Hawkweed. Calyx rough. Seeds furrowed. Down rough, ſeſſile. Receptacle ſomewhat cellular and roughiſh.

Although variable in its herbage, the ſmooth leaves, ſmall flowers and purpliſh ſtem make this plant eaſily known. It moſt certainly belongs to the very natural genus of *Crepis*, however incorrectly the characters of that genus may be defined by ſome authors.

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CARDUUS nutans.
Muſk Thiſtle.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Cal.* ſwelling, imbricated with ſpinous ſcales. *Recept.* hairy. *Down* deciduous.

SPEC. CHAR. Leaves interruptedly decurrent, ſpinous. Flowers drooping. Calyx-ſcales lanceolate, their upper part ſpreading.

SYN. Carduus nutans. *Linn. Sp. Pl.* 1150. *Sm. Fl. Brit.* 848. *Hudſ.* 350. *With.* 699. *Hull.* 179. *Relh.* 315. *Sibth.* 244. *Abbot.* 175. *Raii Syn.* 193.

THIS, the only Britiſh *Carduus* which remains to be publiſhed in the preſent work, is not uncommon in waſte ground, fallow fields and barren paſtures where the ſoil is gravelly, or, more eſpecially, calcareous. It is an annual plant, flowering in July and Auguſt. The flowers are not unornamental, and ſmell ſtrongly of muſk in warm weather. Their drooping poſture diſtinguiſhes them from our other thiſtles.

The ſtem riſes, from a ſpindle-ſhaped root, to the height of 2 or 3 feet, ſometimes not ſo much, and is ſtriated, ſlightly inveſted with cottony down, and clothed with alternate leaves, which form an interrupted ſpinous wing on each ſide the ſtem. The leaves alſo are very ſpinous, deeply ſinuated and waved, green on both ſides, a little hairy but not rough. Flowers on a woolly, round, naked, curved ſtalk, ſolitary, terminal, of a rich crimſon. Calyx ovate, its ſcales ending in broad ſpreading leafy points, ſlightly clothed with cotton. Seeds obovate, ſhining, marked with dotted ſtreaks. Down deciduous, ſimple, rough, but not feathery.

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BIDENS tripartita.

Trifid Bur Marygold.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* chaffy. *Down* formed of rigid briſtles, rough backwards. *Cal.* of many leaves. *Cor.* ſometimes radiated.

SPEC. CHAR. Leaves three-cleft. Calyx leafy at the baſe. Briſtles of the ſeed two or three, erect.

SYN. Bidens tripartita. *Linn. Sp. Pl.* 1165. *Sm. Fl. Brit.* 858. *Hudſ.* 355. *With.* 706. *Hull.* 181. *Relh.* 319. *Sibth.* 248. *Abbot.* 177. *Curt. Lond. faſc.* 4. *t.* 57.

Verbeſina ſeu Cannabina aquatica, flore minùs pulchro, elatior et magìs frequens. *Raii Syn.* 187.

FREQUENT in watery places and about the banks of ditches, flowering in Auguſt and September.

Root annual, ſpindle-ſhaped. Stem 2 or 3 feet high, upright, branched, ſpreading, leafy, angular, furrowed, ſmooth. Leaves oppoſite, ſmooth, deeply ſerrated, cut into one large lobe with two or four ſmaller at its baſe. Flowers ſolitary, terminating each branch, rather drooping, ſurrounded with ſeveral ſimple, ſpreading, entire, rough-edged leaves. Calyx-ſcales nearly equal, flat, ſmooth, ſtreaked with brown. Florets yellow, uniform, tubular and regular. Scales of the receptacle like the calyx-ſcales, but narrower. Seeds compreſſed, furniſhed with two or three angles which are regularly beſet with little reflexed teeth, and terminate in two or three upright triangular briſtles, likewiſe rough with reflexed teeth.

This plant is ſaid to dye woollen and linen cloths yellow, but we have better materials for the purpoſe in common.

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BIDENS cernua.
Nodding Bur Marygold.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Recept.* chaffy. *Down* formed of rigid briſtles, rough backwards. *Cal.* of many leaves, *Cor.* ſometimes radiated.

SPEC. CHAR. Leaves lanceolate, ſerrated. Flowers drooping, leafy at their baſe. Briſtles of the ſeed about four, erect.

SYN. Bidens cernua. *Linn. Sp. Pl.* 1165. *Sm. Fl. Brit.* 858. *Hudſ.* 356. *With.* 705. *Hull.* 181. *Relh.* 320. *Sibth.* 248. *Abbot.* 177. *Curt. Lond. faſc.* 3. *t.* 55.

Verbeſina pulchriore flore luteo. *Raii Syn.* 187.

LESS common than the preceding ſpecies, but not very rare in ponds and ditches on a gravelly ſoil, growing in the water and bloſſoming in September.

Root annual, branching. Stem often roughiſh, and leſs ſpreading than the other. Leaves embracing the ſtem, undivided, lanceolate, deeply ſerrated. Flowers remarkably drooping, larger and of a brighter yellow than thoſe of *B. tripartita*; the angles of the ſeeds moreover are leſs regularly ſpinous, and their briſtles four inſtead of 2 or 3. Sometimes the flowers are furniſhed with large radiant ligulate marginal female florets, in which caſe the plant becomes *Coreopſis Bidens* of Linnæus, and is one proof among others that nature has fixed no ſtrict limits between the orders *Polygamia-æqualis* and *Polygamia-ſuperflua*, the latter being ſomewhat analogous to double flowers in other claſſes.

The *Bidens minima* of Linnæus and others is only a ſtarved plant of this ſpecies growing out of the water.

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INULA dyſenterica.

Common Fleabane.

SYNGENESIA Polygamia-ſuperflua.

GEN. CHAR. *Recept.* nearly naked. *Down* ſimple. *Cal.* imbricated. *Florets* of the radius very numerous, linear. *Antheræ* with 2 briſtles at the baſe.

SPEC. CHAR. Leaves oblong, claſping the ſtem with their heart-ſhaped baſe, downy. Stem woolly, panicled. Calyx-ſcales briſtle-ſhaped, hairy.

SYN. Inula dyſenterica. *Linn. Sp. Pl.* 1237. *Sm. Fl. Brit.* 891. *Hudſ.* 368. *With.* 731. *Hull.* 185. *Relh.* 331. *Sibth.* 246. *Abbot.* 184. *Curt. Lond. faſc.* 3. *t.* 56.

Conyza media. *Raii Syn.* 174.

THIS is a frequent plant in clear ditches and watery places, where its golden flowers are conſpicuous in Auguſt.

The root is creeping and perennial. Stem a foot or more in height, upright, branched in a panicled or corymboſe manner, angular, woolly, clothed with alternate oblong ſpreading leaves, which embrace the ſtem with their heart-ſhaped baſe. Their margin is waved and ſlightly toothed; their ſurfaces veiny; and the under ſide in particular denſely clothed with hoary down. Flowers numerous, terminal, ſolitary, horizontal, of a full bright yellow. Leaves of the calyx awl-ſhaped, hairy. Radiant florets twice as long as the calyx, ſpreading, linear, ending in three teeth, and at length revolute. Each anthera with 2 longiſh briſtles at its baſe. Seeds obovate, rough, crowned with rough down. Receptacle a little cellular, and beſet with minute unequal teeth. The herb is viſcid to the touch, and exhales a peculiar ſharpiſh aromatic ſcent, not unlike that of a peach.

Mr. Relhan in the ſecond edition of his *Flora Cantabrigienſis* juſt publiſhed, to which edition we have of late always referred, mentions a variety of this *Inula* with very ſhort rays that has hitherto eſcaped our notice.

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SPLACHNUM Turnerianum.

Turnerian Splachnum.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Capſule* cylindrical, placed on a fleſhy *receptacle*. *Fringe* of a ſimple row of teeth, approaching each other in pairs.

SPEC. CHAR. Receptacle obovate, green. Capſule rounded at the baſe, ſtanding on a ſhort ſtalk. Leaves lanceolate, taper-pointed, ſomewhat ſerrated.

SYN. Splachnum Turnerianum. *Dickſ. Crypt. faſc.* 4. 3. *t.* 10. *f.* 11.

S. ſagittifolium. *With.* 791. *t.* 18. *f.* 2, left hand figure.

A NATIVE of mountainous heaths and moors, found by Mr. Griffith in North Wales, and by Mr. Turner and Mr. Sowerby in a bog on a high hill 3 miles from Exeter towards Sydmouth.

This is one of the ſmaller kinds of *Splachnum*, being only an inch high. It is in perfection about the end of May or middle of June. The ſtem is very ſhort and ſimple. Leaves lanceolate, broad in the middle, pale green, reticulated, terminating in a taper point; the upper ones ſerrated, eſpecially in their upper part. Fruit-ſtalk purpliſh, changing abruptly into a pale green at the top. Receptacle of a pale pellucid green, obovate. Capſule light reddiſh brown, cylindrical, rounded off at the baſe, and contracted into a ſhort foot-ſtalk which joins it to the receptacle. Lid red, convex. Fringe of 8 pairs of yellowiſh, at length reflexed, teeth. Veil ſhort, oblique.

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LICHEN Oederi.

Oederian Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt thin, teſſellated, of a ruſty red. Shields minute, ſomewhat globoſe, a little immerſed, concave, black, with a thick, black border.

SYN. Lichen Oederi. *Achar. Prod.* 66. *Swartz. Act. Upſal. v.* 4. 245. *Linn. Fil. Meth. Muſc.* 36.

L. cæſius. *Dickſ. Crypt. faſc.* 2. 19. *t.* 6. *f.* 6. *Hull.* 290.

L. Dickſoni. *With. v.* 4. 20. *Achar. Prod.* 76.

L. leproſus ruber, tuberculis nigris. *Oeder. in Fl. Dan. t.* 470. *f.* 1.

THIS the real *Lichen Oederi* (being certainly that figured in the *Fl. Danica*) was ſent us by the Rev. H. Davies from North Wales, growing on ſlate. I firſt found it in 1781 on rocks about Edinburgh, when it was ſuppoſed to be the *fuſco-ater* of authors. Mr. Dickſon has ſince named it *cæſius*, and Dr. Withering called it *Dickſoni*. Among ſo many names we are obliged to follow the Swediſh and Daniſh authorities, as moſt original and authentic, and we have eſtabliſhed our ſynonyms on original ſpecimens.

Its very thin cruſt forms ſpots from half an inch to 2 inches in diameter, and is inſeparable from the ſtone, of an uniform ruſty red, teſſellated, but not rugged, except when very old. We have in ſome young ſpecimens perceived a lobed appearance towards the edge. The ſhields are exceedingly numerous, very ſmall, partly ſunk in the cruſt, and partly prominent and ſomewhat globoſe, entirely black or very ſlightly glaucous; the margin even, and extremely thick in proportion to the diſc, which is concave and depreſſed. Two or three of the ſhields are often crowded together in a line or otherwiſe.—In Dr. Acharius's ſpecimens the cruſt is more granulated than in ours, which we preſume to be the effect of age.

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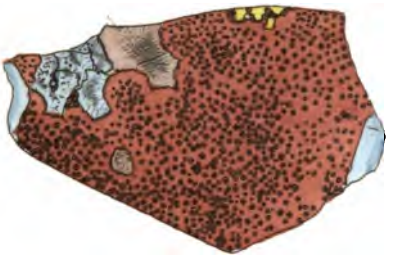

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LICHEN filaceus.
Yellow ochrey Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt uneven, teſſellated, yellowiſh-red. Shields ſeſſile, black, at length convex; their border acute, black.

SYN. Lichen filaceus. *Achar. Prod.* 66.
L. Oederi. *Web. Spicil.* 182. *Dickſ. Crypt. faſc.* 2. 17? *With. v.* 4. 11. *Hull.* 286?
Patellaria filacea. *Hoffm. Pl. Lich. t.* 19. *f.* 2.

THAT this is what Weber named *L. Oederi* we are certain from German ſpecimens as well as from his deſcription; but, as he erred in ſuppoſing it the *Lichen* figured by Oeder, his name muſt give place to that adopted by Hoffmann and Acharius, two great authorities in this department of botany. That it is Mr. Dickſon's *Oederi* we heſitate to pronounce, becauſe the ſpecimen in his *H. Sicc. faſc.* 2. 24. appears to us rather *L. confluens* tinged with an ochrey hue, as mentioned by Dr. Acharius, *p.* 66, which hue however we believe to be cauſed by animal matter rather than by iron.

This ſpecies is totally diſtinct from the preceding. Its cruſt is thicker, more uneven and deeply cracked, of a yellowiſh buff colour rather than red. The ſhields are three or four times as large as thoſe of *L. Oederi*, ſeſſile, not immerſed; their margin thin and ſharp, often waved, their diſc broad, and, though flat at firſt, ſoon convex, eſpecially in its centre, which is protruded in a mammillary form, ſimple or divided, and ſometimes crowned with a ſort of cup or pore. In what reſpects *L. confluens* differs from this we hope ſome other time to demonſtrate. Both of them grow on mountainous rocks in the north.

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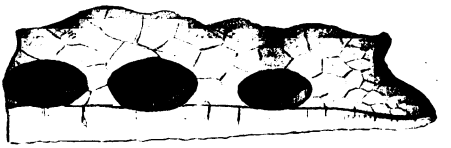

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LICHEN aphthoſus,
Thruſh Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Leathery, ſpreading, roundly lobed, ſmooth, green, ſprinkled with brown warts; beneath fibrous, ſlightly veined. Shields on narrow aſcending lobes, anterior, roundiſh, reddiſh.

SYN. Lichen aphthoſus. *Linn. Sp. Pl.* 1616. *Hudſ.* 547. *With. v.* 4. 70. *Hull.* 299. *Lightf.* 847.

Lichenoides digitatum lætè virens, verrucis nigris notatum. *Dill. Muſc.* 207. *t.* 28. *f.* 196.

Peltigera aphtoſa. *Hoffm. Pl. Lich. t.* 6. *f.* 1.

WE have received this from our often-mentioned friends Mr. Relhan, Mr. Harriman, and Mr. D. Turner. It is found only in alpine rocky ſhady places, growing on the ground under firs or juniper buſhes. Having never ſeen a Britiſh ſpecimen in fruit, we have been obliged to delineate a ſhield gathered in Savoy, where the plant is more luxuriant than in this country.

The fronds ſpread circularly from 3 to 6 inches in diameter, cut into ſeveral round lobes. Their upper ſide is of a moſt beautiful ſhining graſs green, (which turns brown in drying,) ſprinkled with ſmall dark-brown warts, having ſomething of the appearance of ſhields or tubercles. The true ſhields grow on oblong upright narrow lobes, ſpringing from the frond near the margin, and are large, concave, of a bright cheſnut-colour, encircled with a downy inflexed jagged border. The under ſide of the frond is clothed with denſe black woolly roots, except towards the margin, where it is light brown and beſet with little tufted brown radicles. It is abſurd to ſuppoſe this, as ſome have done, a variety of *L. caninus*.

Linnæus ſays the Swediſh peaſants boil this Lichen in milk as a cure for the *aphthæ* or thruſh in children.

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FUCUS Palmetta.

Dwarf Palm Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in cluſtered tubercles, which burſt at their ſummits.

SPEC. CHAR. Stalk round, nearly ſimple. Frond branching into many palmate ſpreading veinleſs ſegments. Tubercles on the extreme linear lobes.

SYN. Fucus Palmetta. *Turn. Syn.* 21. *Stackhouſe Ner. Brit.* 102. *t.* 16.

OUR figure of this *Fucus* is taken from the very ſpecimen ſent to Mr. Turner by Mr. Stackhouſe, the only Britiſh botaniſt who has found this ſpecies. It grows paraſitically on the large ſtems of *F. digitatus* on the Corniſh coaſt. Theſe gentlemen have followed Profeſſor Eſper in calling it *F. Palmetta*; though that name was preoccupied by Gmelin: but as his is a doubtful ſpecies, we accede to their deciſion; at the ſame time begging leave to obſerve that a new name would have been preferable.

The root produces ſeveral ſlender, round, moſtly undivided ſtalks, which expand into a ſpreading pale red, palmate, many-fingered leaf, of a thin membranous texture, without veins, and deſtitute of teeth or ſerratures. The extreme ſubdiviſions are linear and very narrow; and on theſe grow the tubercles, ſeſſile, globoſe, of a darker red than the frond, containing many ſeeds, which eſcape by the upper half of each tubercle ſeparating in time from its baſe. By the ſituation of its fructification this plant is, as Mr. Turner juſtly obſerves, ſufficiently diſtinguiſhable from *F. membranifolius*, the only ſpecies with which it could otherwiſe be confounded.

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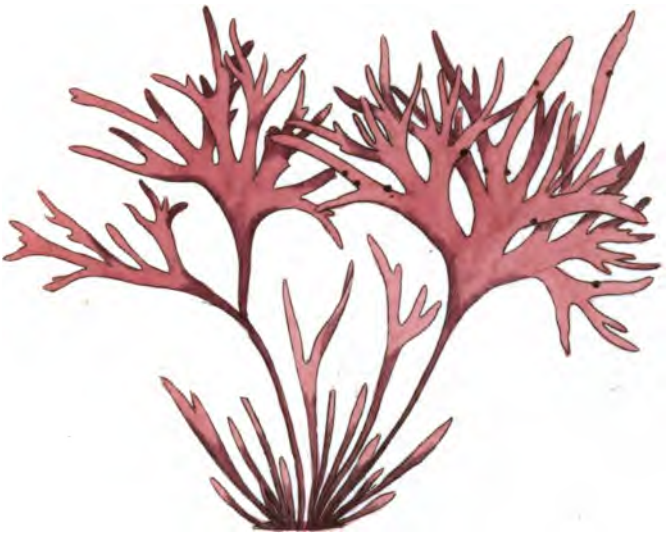

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SCHOENUS nigricans.

Black Bog-ruſh.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, cluſtered; the outer ones barren. *Cor.* none. *Seed* 1, roundiſh, among the glumes.

SPEC. CHAR. Stem round, naked. Head of flowers ovate. Involucrum of two leaves, of which the longeſt is awl-ſhaped.

SYN. Schoenus nigricans. *Linn. Sp. Pl.* 64. *Sm. Fl. Brit.* 43. *Hudſ.* 15. *With.* 80. *Hull.* 12. *Relh.* 19. *Sibth.* 22. *Abbot.* 9. *Dickſ. H. Sice. faſc.* 1. 1.

Cyperus nigricans. *With.* 78. *Hull.* 12.

Juncus lævis minor, paniculâ glomeratâ nigricante. *Raii Syn.* 430.

NOT unfrequent on turfy bogs, where it flowers in June, and is perennial.

The roots conſiſt of long ſtrong black fibres. The ſtem is from 8 to 12 inches high, erect, ſimple, round, naked and ſmooth. Leaves erect, very narrow, acute; round on the under ſide, flat above; their baſe dilated and embracing the ſtem. Head of flowers terminal, erect, compoſed of ſeveral ſpikelets of imbricated florets, and ſubtended by an involucrum of two upright leaves, very much dilated into a brown concave membrane at their baſe, both of them in fact awl-ſhaped, but one only riſes above the flowers. Each glume is keeled, dark brown, deſtitute of nerves, and more or leſs ſharp-pointed. Stamina three. Stigma, as far as we have ſeen, three-cleft; but that circumſtance being variable in ſome neighbouring ſpecies, we dare not found upon it any character of diſtinction between this and *S. rufus*. The germen is ſurrounded by a few narrow ſcales. Seed roundiſh with 3 angles, white and poliſhed, as Ehrhart and Mr. L. Wigg have remarked. We are obliged to the latter for hinting (what indeed we had already diſcovered in inveſtigating the Greek plants) the great importance of the ſeed in diſtinguiſhing ſpecies in this tribe.

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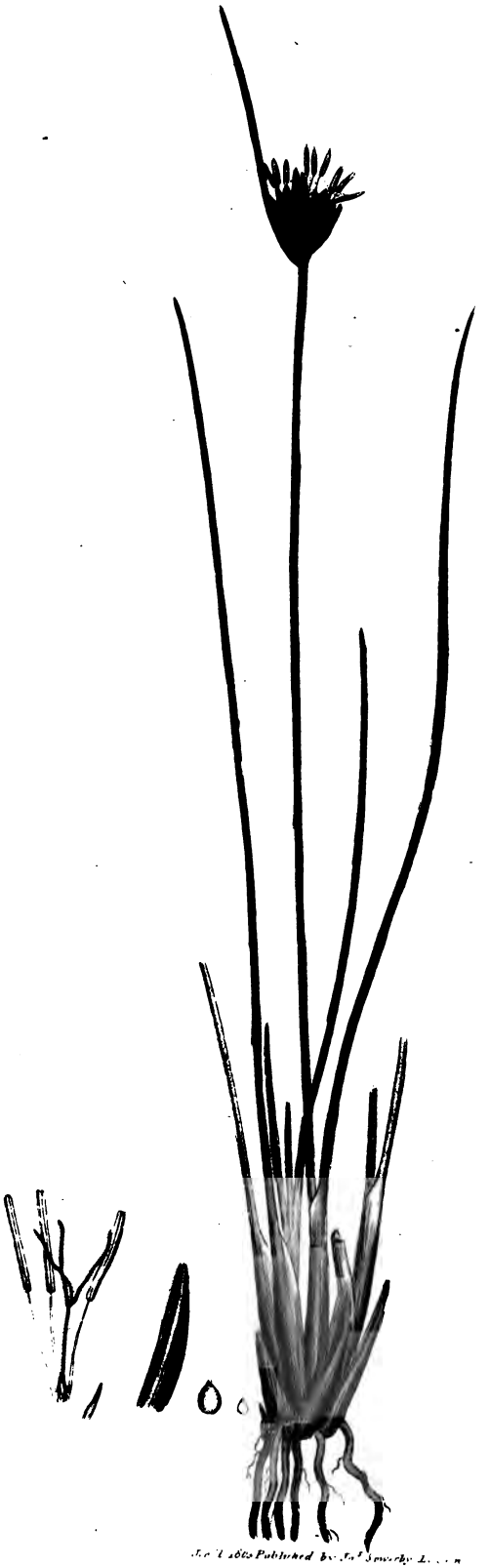

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SCIRPUS pauciflorus.

Chocolate-headed Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1.

SPEC. CHAR. Stem round, ſheathed at the baſe. Spike terminal, of few flowers, longer than its outer glumes.

SYN. Scirpus pauciflorus. *Lightf.* 1078. *Sm. Fl. Brit.* 50. *Hudſ.* 648. *With.* 74. *Hull.* 13. *Sibth.* 23.

S. Bæothryon. *Ehrh. Phyt.* 31. *Linn. Suppl.* 103.

THE *Scirpus* here repreſented, though found on moors and heaths in Scotland and even Norfolk, as well as in various parts of the continent, and now ſufficiently well known and underſtood, was overlooked by Ray, Dillenius, Linnæus and Hudſon; for the latter merely adopted it from the *Fl. Scotica*. Our ſpecimens were gathered near Yarmouth by Mr. D. Turner, flowering in Auguſt.

The roots are perennial, formed of black or reddiſh fibres. Stems erect, ſimple, naked, ſlender, round, rigid, ſmooth, leſs crowded than thoſe of *S. cæſpitoſus*, *t.* 1029, and deſtitute of the numerous imbricated ſcales at their baſe, that part being only cloſely enfolded by an entire, abrupt, pointleſs ſheath. Leaves ſheathing at their baſe, narrow, bluntiſh, ſmooth, ſomewhat concave above, generally ſhorter than the ſtem. Spike erect, ſimple, ſmaller and blacker than that of *S. cæſpitoſus*, formed of about 4 flowers, the glumes of which are nearly equal in ſize, the 2 lowermoſt not riſing ſo high as the top of the ſpike. Stigma three-cleft. Germen angular, ſurrounded by ſeveral rough ſimple briſtles, which remain inveſting the ſeed, which is triangular, ſwelling in the middle, contracted below the top.

We have received this plant from Dr. Roth as the *S. campeſtris* of his excellent *Flora Germanica*.

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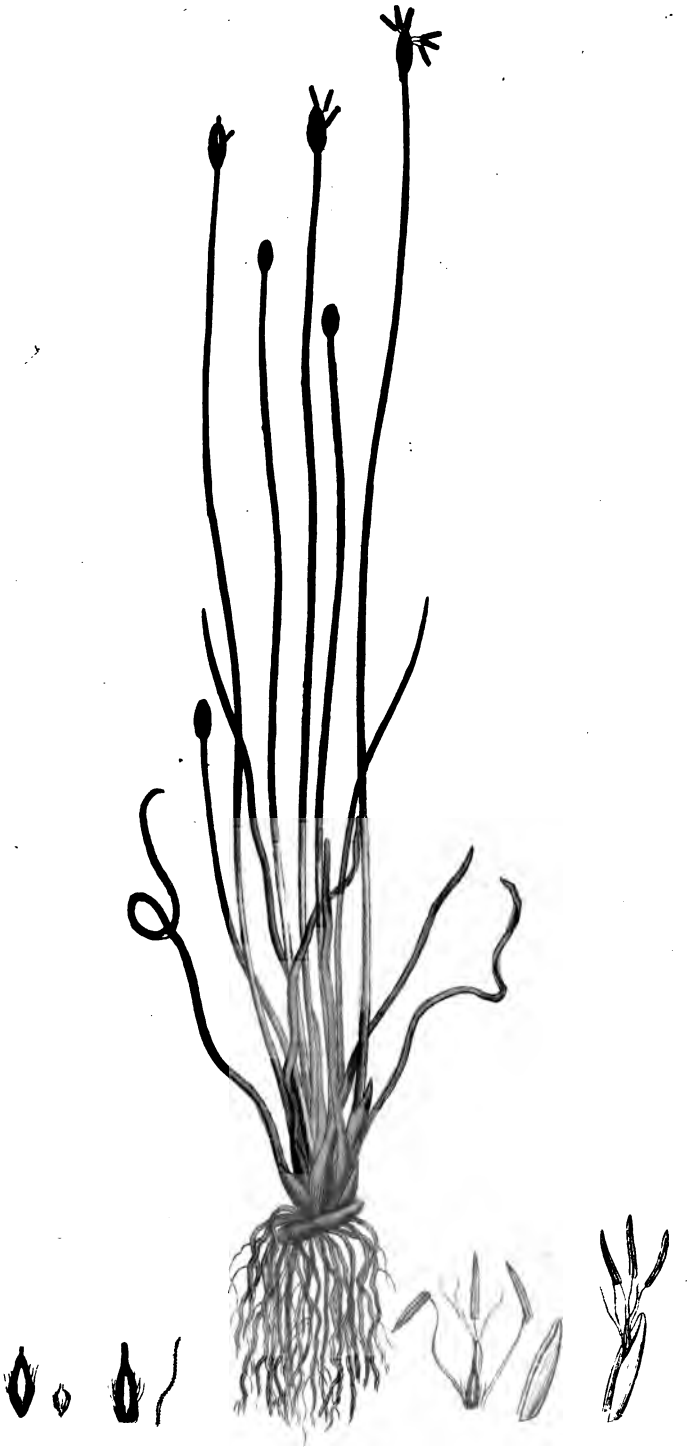

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POA flexuoſa.

Zigzag Meadow-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the baſe. *Cor.* of 2 ovate, pointed, beardleſs valves.

SPEC. CHAR. Panicle zigzag. Spikelets of three flowers. Glumes ovate, connected by a web. Stipulæ all lanceolate.

SYN. Poa flexuoſa. *Sm. Fl. Brit.* 101.

THE Scottiſh mountain of Ben Nevis, amongſt a profuſion of botanical rarities, has afforded us this new ſpecies of *Poa*, diſcovered there by the late Mr. John Mackay, a young man who ſacrificed his repoſe, and finally his health and life, to the too ardent purſuit of botany and horticulture. His diſcriminating powers and readineſs of communication will long live in the memory of thoſe who knew him. We would never neglect the opportunity of twining a modeſt garland for the brows of ſuch benefactors to ſcience, even though it were only of graſs or moſs.

This *Poa*, we believe, has never been mentioned except in the *Flora Britannica*. It is perennial, growing in ſmall tufts, and flowering in July. The colour of the herbage is a light, rather glaucous, green. The ſtems aſcend obliquely, and are often bent at the joints. Leaves ſpreading, narrow, ſharp, roughiſh above, with long, lax, flattiſh ſheaths. Stipulæ all lanceolate and acute. Panicle ovate, rather denſe, its ſtalks angular, rough, more or leſs zigzag, eſpecially at the baſe. Spikelets broad-ovate, rather glaucous, of about 3 florets. Calyx-glumes a little unequal, hardly falcate, acute, rough at the keel, white and thin at the edge, and ſtained with purple towards that part. Florets ſhaped and coloured much like the calyx, or rather leſs ovate; their margin ſmooth, not ſilky, their keel rough, their baſes connected by long hairs. Their inner glumes are rough at the edge.

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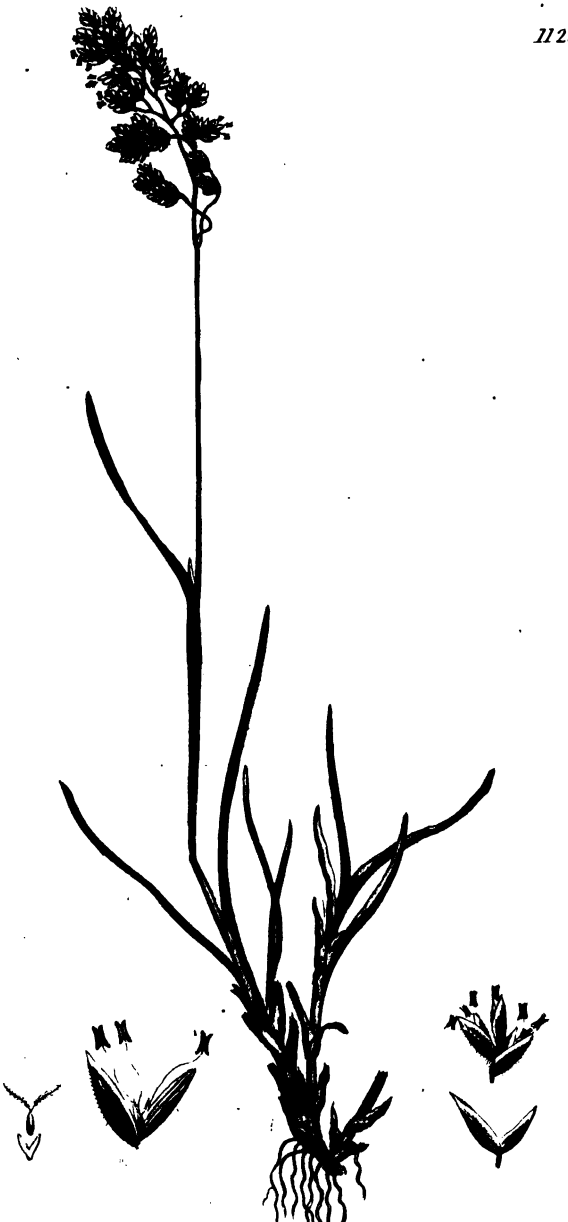

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LOLIUM temulentum.

Bearded Darnel.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 1 valve, fixed, many-flowered. *Florets* in 2 ranks.

SPEC. CHAR. Flowers bearded. Spikelets ſhorter than the calyx. Florets elliptical. Stem rough in the upper part.

SYN. Lolium temulentum. *Linn. Sp. Pl.* 122. *Sm. Fl. Brit.* 150. *With.* 168. *Hull.* 27. *Relh.* 45. *Abbot.* 26.

L. album. *Raii Syn.* 395.

AN annual weed, found occaſionally in fields among wheat, barley or flax, coming to perfection in July.

The root is formed of a few ſhort downy fibres. Stem one or more, erect, two feet high, round, ſtriated, leafy; ſmooth and ſhining below; rough upwards. Leaves lanceolate, ſpreading, graſs-green, ribbed, rough above. Their ſheaths are alſo roughiſh. Stipula ſhort, blunt, crenate. Spike long and upright, with an angular rough ſtalk. Spikelets alternate; in 2 ranks, a little tumid. Calyx of one, linear, flattiſh, beardleſs huſk, rough to the touch, moſtly accompanied, in the lower ſpikelets, with a much ſhorter elliptical inner valve, preſſed cloſe to the excavation of the common ſtalk, ſo that the generic character is not ſtrictly exact in every caſe. Florets cloſely ranged in a two-ranked ſpikelet, which does not in general reach above half the height of the correſponding calyx. Their glumes are elliptical, tumid, each tipped with a long ſtraight, rough awn; the margin of the outer glume membranous, of the inner rough. Seed flattiſh.

The ſeeds of this graſs are reported to be intoxicating to men, beaſts, and birds, and even to bring on convulſions and death. It is not common enough with us to be extenſively dangerous.

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LOLIUM arvenſe.

Annual Beardleſs Darnel.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 1 valve, fixed, many-flowered. *Florets* in 2 ranks.

SPEC. CHAR. Flowers almoſt beardleſs. Spikelets as long as the calyx. Florets elliptical. Stem very ſmooth.

SYN. Lolium arvenſe. *With.* 168. *Sm. Fl. Brit.* 151. *Hull.* 27. *Relh.* 46.

L. temulentum. *Hudſ.* 55.

THIS ſmaller ſpecies of Annual Darnel is not, we believe, more frequent than the laſt, with which Linnæus confounded it. The ſpecific character given by Mr. Hudſon convinces us this was his *L. temulentum*. We have received it from Walthamſtow by favour of Mr. E. Forſter, who has in ſome ſpikelets obſerved 2, or even 3, ſmall inner valves to its calyx. Mr. Groult found it at Kennington without any ſuch appendages. In time of flowering and duration it agrees with the preceding, but differs in being rather ſmaller; in having a perfectly ſmooth ſtem and ſpike-ſtalk; in its ſpikelets being as long as the calyx, or very nearly ſo, their florets either quite beardleſs, or at moſt furniſhed with ſhort, lax, very weak ſmooth briſtles.

We learn from Mr. Relhan's new edition of the *Flora Cantabrigienſis* that this ſpecies (as well as the preceeding) is found in that county. It has not yet been detected in Norfolk.

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ALOPECURUS alpinus.
Alpine Fox-tail-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, ſingle-flowered. *Cor.* of 1 acute, awned valve.

SPEC. CHAR. Stem erect, ſmooth. Spike ovate. Glumes of the calyx downy, without awns, and nearly as long as the awns of the corolla.

MR. G. DONN has favoured us with this new ſpecies of *Alopecurus*, diſcovered by himſelf on mountains about Loch Nagore in Aberdeenſhire. We find no deſcription to which it can be certainly referred, although that of Profeſſor Vahl's *A. antarcticus*, ſee Wildenow *Sp. Pl. v.* 1. 357, agrees in every point except the length of the *ariſta*, which Vahl deſcribes as twice the length of the calyx, whereas in our plant it is ſcarcely at all longer than the calyx. It is not impoſſible that a graſs of the Straits of Magellan ſhould alſo grow on the mountains of Scotland. Unluckily we want a ſpecimen to decide this point.

A. alpinus has a creeping perennial blackiſh root, with many long fibres. Stem about a foot high, bent at the loweſt joint, then erect, ſimple, leafy, ſmooth in every part. Radical leaves narrow; thoſe on the ſtem broader, ſhort, flat, ſharp-pointed, ſmooth, with long and ſlightly inflated ſheaths, crowned by very ſhort ſtipulæ. Spike terminal, erect, ovate, blunt, ſcarcely an inch long, lobed or branched as in *A. pratenſis*. Flowers ovate. Calyx glumes united at their baſe, ſomewhat abrupt at the point, purpliſh, clothed with ſoft white hairs. Corolla of one naked glume, with an awn from its lower part, which ſcarcely (if at all) exceeds the calyx in length.

Phalaris utriculata of Linnæus, and *Phleum Gerardi* of Jacquin, both moſt unqueſtionably belong to this genus. The former is diſtinguiſhed from the ſpecies juſt deſcribed by its ſmooth gibbous calyx, longer awns, and annual root; the latter by its long-awned calyx and more globular ſpike.

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KNAPPIA agroſtidea.

Early Knappia.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 obtuſe valves, ſingle-flowered, awnleſs. *Cor.* of 1 hairy, abrupt, awnleſs valve. *Flowers* alternate, on a ſerpentine *rachis.*

SPEC. CHAR. . . . . .

SYN. Agroſtis minima. *Linn. Sp. Pl.* 93. *Sm. Fl. Brit.* 82. *Hudſ.* 32. *With.* 134. *Hull.* 19.

Gramen minimum Anglo-Britannicum. *Raii Syn. Indic. Pl. Dub.*

THE elucidation of a new ſpecies of graſs in the foregoing page, and of a new genus in this, will we hope juſtify our publiſhing more of one tribe in the preſent number than uſual. Many botaniſts have doubted the propriety of referring the preſent plant to *Agroſtis*, and our own ſuſpicions reſpecting it have at length been confirmed by the opinion of J. L. Knapp, Eſq. F.L.S. whoſe Hiſtory of Britiſh Graſſes, now preparing for the preſs, and illuſtrated with moſt accurate figures, drawn by himſelf from every ſpecies in its native ſituation, will abundantly juſtify our giving his name to the genus we have agreed with him to eſtabliſh.

This curious little graſs very rarely occurs. It grows in ſandy maritime paſtures, flowering in March and April. The Rev. Mr. Davies, to whom we are obliged for wild ſpecimens, mentions its being frequent on the ſouth-weſt coaſt of Angleſea. The root is annual, formed of a few long ſlender fibres. Herbage ſmooth. Stems few, from 1 to 3 inches high, ſimple, ſlender, ſtraight. Leaves almoſt entirely radical, linear, channelled, blunt, enfolding the baſe of the ſtem with their membranous-edged ſheaths. Spike terminal, ſlender, compoſed of 7 or 8 ſmall flowers, alternately placed on a zigzag *rachis* or ſpike-ſtalk. Calyx of 2 equal, oblong, obtuſe, ſmooth, purpliſh glumes, with green keels. Corolla of 1 thin very hairy valve, broader upwards, and very obtuſe or abrupt at its ſummit, ſhorter than the calyx, embracing the germen and 3 ſlender ſtamina, and quite deſtitute of beard or awn. Seed elliptical.

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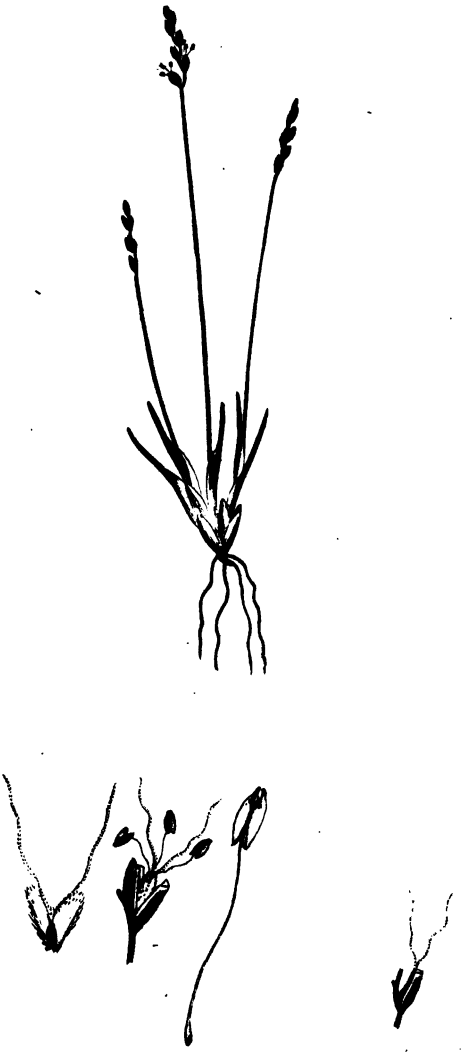

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ANGELICA ſylveſtris.
Wild Angelica.

PENTANDRIA Digynia.

GEN. CHAR. *Involucra* general and partial. *Fruit* roundiſh, ſolid, with 3 wings on each ſide. *Cal.* 5 teeth. *Flowers* regular. *Pet.* incurved. *Styles* reflexed.

SPEC. CHAR. Leaflets equal, ovate, ſerrated.

SYN. Angelica ſylveſtris. *Linn. Sp. Pl.* 361. *Sm. Fl. Brit.* 311. *Hudſ.* 118. *With.* 298. *Hull.* 62. *Relh.* 112. *Sibth.* 96. *Abbot.* 61. *Woodv. Suppl. t.* 265. *Raii Syn.* 208.

COMMON in watery places about the banks of rivers and ditches, oſier grounds, alder groves, &c. flowering in July, when its tall purpliſh-glaucous ſtem, bearing large denſe umbels on its divaricated branches, is ſeen riſing above the ſurrounding coarſe graſſes, willow-herbs and water-mints, among which the broad ſpreading leaves of the Angelica are no leſs conſpicuous.

The root is perennial, large and fleſhy. Stem round, ſmooth, branched, leafy. Leaves bipinnate, rather glaucous, compoſed of diſtinct, ovate or elliptical, ſharply ſerrated leaflets, of which the lowermoſt lateral ones are often lobed or auricled. Umbels of many rays, denſe, hemiſphærical. Involucrum of 1 or 2 very narrow ſharp leaves; partial involucra of many ſimilar ones; all of them downy as well as the ſtalks. Flowers regular, ſmall, white or purpliſh. Styles purple, ſhort till after the flowers are faded, when they become reflexed. Fruit ſmall, ſmooth. The general involucrum is often wanting.

This whole plant is aromatic, bitter and pungent; but the garden Angelica is now generally preferred for medical purpoſes, and always for culinary ones. Both plants are eminently ſtomachic and carminative.

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ERYSIMUM præcox.
Early Winter Creſs.

TETRADYNAMIA Siliquoſa.

GEN. CHAR. *Pod* columnar, exactly ſquare. *Cal.* cloſed. *Stigma* capitate.

SPEC. CHAR. Lower leaves lyrate; upper ones pinnatifid, their ſegments linear-oblong and entire.

SYN. Eryſimum præcox. *Sm. Fl. Brit.* 707.
E. Barbarea β. *Linn. Sp. Pl.* 922?
Barbarea foliis minoribus et frequentius ſinuatis. *Dill. in Raii Syn.* 297.
Early Winter Creſs. *Petiv. H. Brit. t.* 46. *f.* 2.

WE are obliged to the Rev. Dr. Beeke for wild ſpecimens of this plant, gathered on a hill half a mile north of Teignmouth, as well as near Dawliſh, Kingſteington, and Honiton, Devonſhire, the ſoil a red brick clay. It begins to flower in May, and may be found till autumn.

The root appears to be perennial. Stem about 18 inches, in moiſt ſituations 2 feet, high, erect, leafy, angular, ſmooth, a little branched, purpliſh below. Radical leaves very numerous, exactly like thoſe of *Siſymbrium Naſturtium*, lyrate, their ſtalk a little hairy: ſtem leaves oppoſitely, deeply and regularly pinnatifid, their lobes oblong, bluntiſh, entire, ſmooth and ſhining, the lowermoſt rounded, claſping the ſtem, fringed. Flowers ſmaller and paler than thoſe of *E. Barbarea*, *t.* 443. Pods nearly thrice as long as in that ſpecies, exactly ſquare, ſmooth, crowned with a very ſhort permanent ſtyle.

There can be no doubt of this being what Petiver intended in the figure above quoted, and conſequently what Dillenius has introduced into Ray's *Synopſis*. We doubt whether any following botaniſt has been acquainted with it till now. It is diſtinct enough from *E. Barbarea*. Dr. Beeke thinks it alſo different from the Winter Creſs of the gardens called American Creſs, but we are at a loſs for a ſpecific difference between them.

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SENECIO Jacobæa.

Common Ragwort.

SYNGENESIA Polygamia-ſuperflua.

GEN. CHAR. *Recept.* naked. *Down* ſimple. *Cal.* cylindrical, many-leaved, equal, ſcaly at the baſe; ſcales dead at the tip.

SPEC. CHAR. Radius ſpreading. Leaves doubly pinnatifid, ſomewhat lyrate, divaricated, toothed, ſmooth. Stem erect.

SYN. Senecio Jacobæa. *Linn. Sp. Pl.* 1219. *Sm. Fl. Brit.* 885. *Hudſ.* 365. *With.* 724. *Hull.* 187. *Relh.* 328. - *Sibth.* 254. *Abbot.* 182. *Mart. Ruſt. t.* 85.

Jacobæa vulgaris. *Raii Syn.* 177.

ABUNDANT every where in dry paſtures, waſte ground, and by road ſides, flowering copiouſly in the uſual hot weather of July and Auguſt, at which time it forms a contraſt with the ſurrounding ſcorched and withered herbage.

Root perennial. Stem erect, furrowed, very leafy, branched in a corymboſe manner. Leaves alternate, deep ſhining green, doubly pinnatifid, or cut into various ſpreading, wedge-ſhaped, toothed ſegments: the lower ones on ſtalks; the reſt embracing the ſtem. Flowers very numerous, in terminal upright corymbi, of a bright golden yellow, eſpecially their radius, which conſiſts of a great number of linear narrow florets, at firſt ſpreading, but recurved in decay. The ſeeds of the diſk are thickly clothed with ſhort ſilky hairs, but I am obliged to Mr. Sowerby for obſerving that thoſe of the radius are quite ſmooth. The down of all is rough, but not feathery. A cottony web, more or leſs denſe, frequently inveſts the flower-ſtalks and calyx.

In Yorkſhire this plant is ſometimes called Swine's Creſſes, and has been recommended in a bruiſed ſtate as an application to cancers.

The leaves are devoured by the pretty black and yellow ringed caterpillars of the *Phalæna Jacobææ.*

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SENECIO aquaticus.

Marſh Ragwort.

SYNGENESIA Polygamia-ſuperflua.

GEN. CHAR. *Recept.* naked. *Down* ſimple. *Cal.* cylindrical, many-leaved, equal, ſcaly at the baſe; ſcales dead at the tip.

SPEC. CHAR. Radius ſpreading; florets elliptical. Leaves lyrate, ſerrated; the lowermoſt obovate and undivided. Seeds ſmooth.

SYN. Senecio aquaticus. *Hudſ.* 366. *Sm. Fl. Brit.* 885. *With.* 725. *Hull.* 187. *Relh.* 329. *Sibth.* 254. *Abbot.* 182.

Jacobæa latifolia paluſtris ſive aquatica. *Raii Syn.* 178.

EQUALLY common with the preceding, but in different ſituations; preferring moiſt meadows and even ditches, where it flowers from July to the end of autumn, and the root is perennial.

Linnæus conſidered this but as a variety of *S. Jacobæa*, and indeed its leaves are ſubject to ſo many changes of form, from ovate to deeply pinnatifid, that they ſometimes approach nearly to thoſe of the foregoing; they are however always of a lighter colour. The flowers are fewer, larger, with the radiant florets more elliptical; ſometimes indeed, when they are but few in number, very much ſo, and of a conſiderable breadth. Theſe circumſtances authorized Mr. Hudſon and others to conſider this as a diſtinct ſpecies. We are happy to have diſcovered an additional character in the ſmoothneſs of the ſeeds, in which this *Senecio* differs from every other we have been able to examine; for in this the ſeeds of both diſk and radius are quite ſmooth, except a little occaſional roughneſs on the upper part of their edges, nor have they any of thoſe ſilky hairs found in other plants of this genus.

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SPLACHNUM anguſtatum.
Narrow-leaved Splachnum.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Capſ.* cylindrical, placed on a fleſhy *receptacle.* *Fringe* ſimple, of 16 teeth, ſtanding in pairs.

SPEC. CHAR. Receptacle obovate, browniſh. Leaves lanceolate, pointed, bearded; the upper ones ſerrated.

SYN. Splachnum anguſtatum. *Linn. fil. Meth. Muſc.* 33. *Hedw. Sp. Muſc.* 51. *Crypt. v.* 2. 37. *t.* 12. *Dickſ. Crypt. faſc.* 2. 3. *With.* 792. *Hull.* 246.

WE believe the ſpecies of *Splachnum* generally grow on the dung of animals, and for the moſt part in mountainous ſituations. Mr. G. Donn gathered the preſent kind upon cow-dung on the ſide of Lochawen, Scotland, growing with *S. ſphæricum*, ſee *vol.* II. *t.* 785.

It was originally deſcribed by Dr. Swartz in his Diſſertation upon Moſſes, publiſhed under the preſidency of the younger Linnæus, and was firſt announced as a Britiſh plant by Mr. Dickſon.

The ſtems form very denſe tufts, and are from one to two or three inches high, ſimple or divided, leafy, thickly clothed with ruſty fibres below. Leaves bright green, lanceolate, acute, tipped with a long taper point; the uppermoſt ſerrated. Fruit-ſtalk ſhorter than in any other known ſpecies, being ſcarcely half an inch long, yellowiſh-brown, ſtraight. Receptacle obovate, brown when ripe, much ſhorter than the ripe capſule, and ſomewhat broader. Capſule brown, with a ſpreading mouth, ſurrounded with yellowiſh teeth. Lid convex. Veil conical, whitiſh.

The *Splachna* may be preſumed to be annual or biennial, from the tranſient duration of the ſoil on which they grow. They generally flower early in ſummer, and ſoon bring their fruit to perfection.

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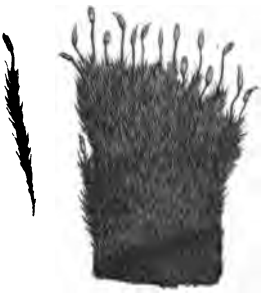

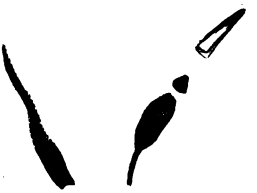

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SPLACHNUM tenue.

Slender Splachnum.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Capſ.* cylindrical, placed on a fleſhy *receptacle. Fringe* ſimple, of 16 teeth, ſtanding in pairs.

SPEC. CHAR. Receptacle obconical, ſlender, brown. Leaves ovate, acute, ſerrated, beardleſs.

SYN. Splachnum tenue. *Dickſ. Crypt. faſc.* 2. 2. *With.* 793. *Hull.* 246.

S. purpureum. *With.* 794. *t.* 18. *f.* 9. *Hull.* 246.

GATHERED laſt October on the very lofty mountains of Inverneſs-ſhire by Mr. G. Donn. It has alſo been found by the ſame indefatigable and excellent obſerver, as well as by Mr. Dickſon, upon Ben Lawers; and by Mr. Griffith in North Wales: but its original diſcoverer was Dr. F. Buchannan, who gathered it at his paternal ſeat at Leney near Stirling, in 1782. No foreign writer ſeems to have known this ſpecies, but Mr. D. Turner is poſſeſſed of ſpecimens lately gathered at the Hartz by Mr. Mohr. Can it be *S. ferratum* of *Hedw. Sp. Muſc.* 53. *t.* 8.?

The ſtems are generally very ſhort, forming tufts. Leaves ovate, or rather obovate, acute, not bearded, flat, finely ſerrated, evidently and beautifully reticulated, of a fine green, turning red in decay. Stalk an inch and half or two inches high, of a beautiful red in the lower part, pale or yellowiſh at the top, but as it grows old the whole becomes of a dark red. Receptacle ſlender, though rather long, inverſely conical, green when young, dark red or brown when ripe, not thicker than the capſule, but in a dried ſtate even more ſlender. Capſule dark-brown. Lid convex, brown. Veil conical, blunt, tipped with brown.

This ſpecies occurs twice in Dr. Withering's work, having been in one inſtance deſcribed from Mr. Griffith's ſpecimens, and in the other adopted from Mr. Dickſon.

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GRIMMIA apocarpa.

Seſſile Grimmia.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Fringe* ſimple, of 16 teeth, broadeſt at their baſe. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves ovate, pointed: the uppermoſt bearded. Capſule ovate, ſeſſile. Stem much branched.

SYN. Grimmia apocarpa. *Hedw. Sp. Muſc.* 76. *Crypt. v.* 1. 104. *t.* 39. *Sibth.* 276.

Bryum apocarpum. *Linn. Sp. Pl.* 1579, *α*. *Hudſ.* 474, *β*. *With.* 809, *var.* 1. *Relh.* 424. *Abbot.* 236.

Fontinalis apocarpa. *Hull.* 274.

Sphagnum cauliferum et ramoſum ſaxatile hirſutum vireſcens, capitulis obſcurè rubris. *Raii Syn.* 104.

S. ſubhirſutum obſcurè virens, capſulis rubellis. *Dill. Muſc.* 245. *t.* 32. *f.* 4.

NOT rare upon ſtones and the trunks of trees. The bright red lids of its capſules render it conſpicuous in the ſpring months.

The ſtems form looſe tufts of various ſizes, and are branched and ſpreading, thickly clothed with imbricated, ovate, keeled, entire, acute leaves, often tipped with a white pellucid briſtly point; indeed thoſe which ſurround the fruit have always this appendage. The capſules ſtand ſolitary and ſeſſile at the end of each branch, and are ovate or ſomewhat cylindrical, ſhort, reddiſh-brown, ſmooth (not furrowed), crowned with a bright red lid, whoſe beak varies in length and thickneſs, but is generally nearly ſtraight, and always much ſhorter than the capſule itſelf. Fringe of 16 red, entire, ſpreading teeth, broad at the baſe, tapering to a fine point. Veil remarkably ſmall, not exceeding the lid in dimenſions.

The variety *β* of Linnæus, which Mr. Hudſon has unaccountably choſen to make the original ſpecies, is a totally different plant, and even genus, the *Gymnoſtomum ciliatum* of late writers.

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GRIMMIA conoſtoma.

Cone-mouthed Grimmia.

CRYPTOGAMIA Muſci.

Gen. Char. *Fringe* ſimple, of 16 teeth, broadeſt at their baſe. *Flowers* terminal. *Veil* cylindrical.

Spec. Char. Leaves lanceolate, finely ſerrated, bearded, imbricated in five rows. Capſule roundiſh. Fringe cohering at the point.

Syn. Bryum tetragonum. *Dickſ. Crypt. faſc.* 2. 8. *t.* 4. *f.* 9. *With.* 835. *Hull.* 264.
Conoſtomum arctlcum. *Swartz. MSS.*

MR. DICKSON firſt obſerved this moſs upon Ben Lomond. Mr. G. Donn has alſo found it on ſome other Scottiſh mountains, as Ben Lawers, Loch-ne-gare, and the Corum-gorum hills of Inverneſs-ſhire. It is perennial, bearing its fruit in July and Auguſt.

The ſtems are branched, an inch or two in height, and form denſe even-topped tufts. The leaves are lanceolate, keeled, minutely ſerrated, tipped with a ſmall point, cloſely imbricated in 5 rows. Stalk an inch high, reddiſh, not quite ſtraight. Capſule a little drooping, and ſomewhat oblique, roundiſh, at length furrowed, of a yellowiſh brown. Fringe red, of 16 ſimple taper teeth, cohering at their points. Lid conical, curved, half as long as the capſule. The veil we have not ſeen.

We are obliged to Mr. Donn for remarking that the ſlender ſhoots repreſented in Mr. Dickſon's plate are probably the effects of damp package, they not being found in the plant in its native ſituation. Dr. Swartz, who has ſent us Lappland ſpecimens, rightly obſerves that the ſhoots have five (not merely four) angles. Hence being obliged to change the ſpecific name, we have adopted one expreſſive of the conical united fringe, a circumſtance ſo remarkable that Dr. Swartz thinks it enough to conſtitute a generic character. We acknowledge the habit greatly ſtrengthens his opinion.

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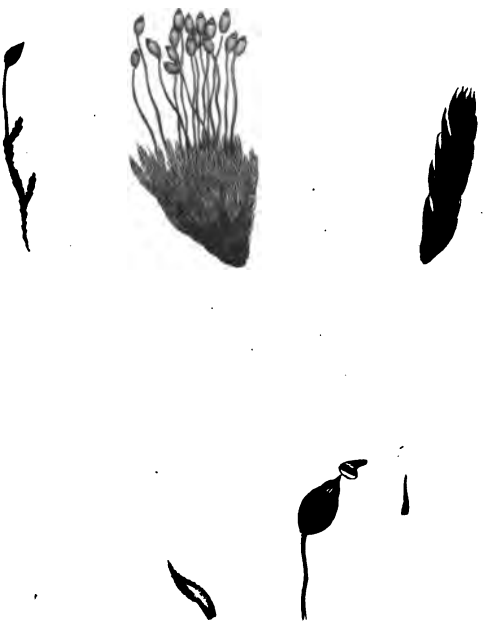

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LICHEN Ehrhartianus.

Ehrhartian Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt rugged, granulated, greeniſh-white, ſtudded with black warts. Shields bordered, yellowiſh; at length convex, waved, deformed and cluſtered.

SYN. Lichen Ehrhartianus. *Achar. Prod.* 39. *t.* 2. *f.* 1. *Dickſ. Crypt. faſc.* 4. 22.

DISCOVERED by Mr. D. Turner at Acle, Norfolk, between the town and the wood, growing in the greateſt profuſion upon a barn door. Although not very conſpicuous to a ſuperficial obſerver, it proves very diſtinct when examined, and there is none with which it can be confounded.

The cruſt covers the wood in broad, level, cracked and granulated patches, and is about a line in thickneſs, tartareous, greeniſh-white, not mealy, but compoſed of uniform ſmooth roundiſh little knobs or granulations, many of which bear each a little black wart. Theſe warts might be taken for ſeed-bearing tubercles, did we not obſerve alſo real ſhields, various in ſize and figure, of a buff-colour, at firſt ſurrounded with a zigzag white narrow border; afterwards convex, variouſly waved and wrinkled, the border being obliterated.

Dr. Acharius ſuſpects the *L. graniformis* of Hagen may be only the beginning of this ſpecies.

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LICHEN epipolius.

Silver-grey Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt white, teſſellated as if ſomewhat imbricated. Shields uniform, round, convex, blackiſh, clothed with fine grey mealineſs, and bordered with white.

SYN. Lichen epipolius. *Achar. Prod.* 58.

OBSERVED by Mr. Turner growing on calcareous ſtones in ſeveral old buildings in Norfolk and Suffolk. This ſpecimen came from the church of Market Dereham. We know of no other botaniſt who has found this Lichen in Britain, nor has it been noticed by any writer except Dr. Acharius. Although fine ſpecimens of it are not always to be found, and therefore it may be overlooked, it is a perfectly diſtinct ſpecies.

The cruſt, when not impeded, ſpreads circularly, and is of a fine tartareous texture though thin, pure white within, externally when moiſt faintly tinged with grey; it is finely cracked or teſſellated, and towards the margin a little lobed, but ſcarcely imbricated or rugoſe. Shields numerous, ſeſſile, ſmall, uniform, exactly round, convex, clothed with a ſilvery-grey mealineſs, which is with difficulty rubbed off, and leaves the ſhield almoſt black. When young each ſhield has a narrow white border.

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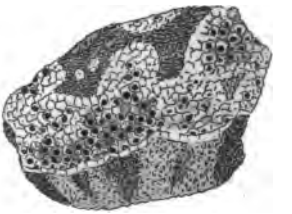

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LICHEN candidus.

White Tumid Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt white, lobed and ſwollen, minutely cracked and powdery. Shields black, convex, irregular, in the clefts of the cruſt.

SYN. Lichen candidus. *Weber. Goett.* 193. *Ehrh. Crypt.* 49.

L. tumidulus. *Sm. Tranſ. of Linn. Soc. v.* 1. 82. *t.* 4. *f.* 3.

Patellaria candida. *Hoffm. Pl. Lich. t.* 33. *f.* 2.

FOR this Lichen, not before detected in Britain, we are alſo obliged to Mr. Turner, who found it on the ruined walls of Trigby church near Yarmouth. It is preſerved in the late Mr. Bryant's herbarium, now in the poſſeſſion of Miſs Hancock of Norwich, by the name of *atro-albus*, with the Linnean definition of which it ſomewhat agrees. Having met with this ſpecies in the South of France, and conceiving it to be nondeſcript, I called it *tumidulus*, a name perhaps more expreſſive than that of Weber, but his has a prior right. Surely Dr. Acharius is much miſtaken in conſidering it a variety or early ſtate of *cæruleo-nigricans!*

The cruſt is tartareous, ſwelling out into remarkably thick prominent lobes, clothed with fine white meal, which when rubbed off leaves the cruſt browniſh or grey, and minutely cracked. Within it is however pure white. The ſhields ſtand in the interſtices of the cruſt, ſeſſile, various in ſize and figure, at length convex, ſinuated and lobed, coal-black with a narrow edge of the ſame colour. In a young ſtate they are clothed with blue mealineſs.

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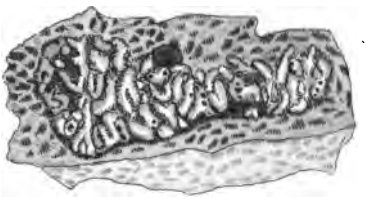

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LICHEN cæruleo-nigricans.

Black and Blue Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, ſcattered warts. Female, ſmooth ſhields or tubercles, in which the ſeeds are imbedded.

SPEC. CHAR. Cruſt of irregular, imbricated, tumid, powdery, greyiſh leaves. Shields black, irregular, flattiſh, in the interſtices of the leaves, with a thick paliſh border.

SYN. Lichen cæruleo-nigricans. *Lightf.* 805. *Hudſ.* 652. *With. v.* 4. 10. *Hull.* 286. *Abbot.* 259. *Dickſ. H. Sicc. faſc.* 8. 24.

L. veſicularis. *Achar. Prod.* 94. *Relh.* 458.

L. paradoxus. *Ehrh. Crypt.* 206.

Patellaria veſicularis. *Hoffm. Pl. Lich. t.* 32. *f.* 3.

IN the laſt page we mentioned the opinion of Dr. Acharius that this and *L. candidus* are not diſtinct ſpecies. With all due deference to ſuch authority, we cannot but conceive them different. *L. cæruleo-nigricans* grows on the ground, not on ſtones, and conſiſts of long branched tufted ſpongy roots, bearing tumid roundiſh cluſtered leaves, greeniſh when wet, grey or brown when dry, covered with fine mealy powder. We do not find that they turn black when old. Black ſhields grow among them, greyiſh when young, and ſurrounded with a thick paler border, which diſappears as they advance in age, and they then become various in ſize and form, often tumid, but more generally flat. Such are the characters of this plant as we have found them in Cambridgeſhire ſpecimens ſent by the Rev. Mr. Hemſted, as well as in others from the north; yet ſo various are the accounts and ſentiments of authors about it that we offer ours with great diffidence. We retain Lightfoot's ſpecific name as original and indiſputable, though he has miſquoted Dillenius. Surely Mr. Bolton's *Sphæria glauca* cannot be the ſame with what we have here deſcribed.

Profeſſor Hoffmann has figured and illuſtrated theſe two Lichens in the moſt admirable manner.

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POA maritima.

Creeping Sea Meadow-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the baſe. *Cor.* of 2 ovate, pointed, beardleſs valves.

SPEC. CHAR. Panicle branched, rather cloſe. Spikelets of five bluntiſh, cylindrical, ſlightly five-ribbed florets. Root creeping.

SYN. Poa maritima. *Hudſ.* 42. *Sm. Fl. Brit.* 97. *With.* 147. *Hull.* 22. *Lightf.* 98. *Relh.* 32. *Dickſ. H. Sicc. faſc.* 11. 2.

Gramen paniculatum maritimum vulgatiſſimum. *Raii Syn.* 409.

GATHERED by Mr. Groult at Southampton, September 15 laſt. It is not unfrequent in marſhy places on the ſea-coaſt, flowering from July to October, and is perennial.

The root creeps, by which this differs from *P. diſtans*, *v.* 14. *t.* 986, which is moreover leſs ſtrictly a maritime plant. The ſtems are very ſmooth and poliſhed, decumbent at their baſe. Whole plant glaucous, often tinged in the florets and panicle with purple. Leaves involute, pungent. Stipula moſtly blunt. Branches of the panicle rough, ſtraight, ſpreading whilſt in flower, then erect, rarely divaricated. Spikelets linear, longer and larger than in *P. diſtans*, of about five florets, which are almoſt imperceptibly five-ribbed, blunt but not retuſe, unconnected by any web.

It is a hard ſcattered graſs, not likely to anſwer any agricultural purpoſes.

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POA annua.

Annual Meadow-graſs.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves, containing many florets. *Spikelet* rounded at the baſe. *Cor.* of 2 ovate, pointed, beardleſs valves.

SPEC. CHAR. Panicle divaricated. Spikelets ovate. Florets a little remote, five-ribbed, deſtitute of a web. Stem oblique, compreſſed.

SYN. Poa annua. *Linn. Sp. Pl.* 99. *Sm. Fl. Brit.* 105. *Hudſ.* 42. *With.* 143. *Hull.* 22. *Relh.* 34. *Sibth.* 42. *Abbot.* 18. *Curt. Lond. faſc.* 1. *t.* 6. *Mart. Ruſt. t.* 98. *Stillingfl. t.* 7.
Gramen pratenſe minus, ſeu vulgatiſſimum. *Raii Syn.* 408.

EVERY where in meadows and paſtures, and flowering almoſt throughout the year when the weather is mild. The root is ſtrictly annual, though the ſtems throw out fibres from their lower parts, and ſeem to creep. Herbage bright green, not glaucous. Stems ſeveral, obliquely ſpreading, compreſſed, leafy, ſmooth. Leaves linear, flaccid, bluntiſh, ſmooth, with a little roughneſs at the edges, flat, except a waved or crumpled appearance here and there, very characteriſtic of the ſpecies, though not abſolutely peculiar to it. Sheaths long, compreſſed, ſmooth, crowned by a ſharp ſtipula. Panicle erect, ſmooth, its branches in pairs, rather directed towards one ſide. Spikelets ovate, variegated with green and white, ſmooth and poliſhed. Calyx acute. Florets about 5, not crowded, ovate, obtuſe, 5-ribbed, membranous at the edge, a little ſilky at the back, deſtitute of a web at their baſe.

This graſs is noted for its great increaſe, and the facility with which it occupies almoſt any ſituation. It affords excellent food for cattle, plentiful in proportion to the richneſs of the ſoil, and is not damaged, but rather improved, by being trodden.

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BETONICA officinalis.

Wood Betony.

DIDYNAMIA Gymnoſpermia.

GEN. CHAR. *Cal.* 5-cleft, awned. Upper lip of the *corolla* aſcending, flattiſh; lower 3-cleft: tube cylindrical.

SPEC. CHAR. Spike interrupted. Middle ſegment of the lower lip notched.

SYN. Betonica officinalis. *Linn. Sp. Pl.* 810. *Sm. Fl. Brit.* 632. *Hudſ.* 258. *With.* 530. *Hull.* 131. *Relh.* 233. *Sibth.* 185. *Abbot.* 130. *Curt. Lond. faſc.* 3. *t.* 33. *Woodv. Suppl. t.* 241.
Betonica. *Raii Syn.* 238.

NOT rare in woods and thickets, where it flowers in July and Auguſt.

Root perennial, ſomewhat woody. Whole herb rough with rigid hairs, to which, as is well obſerved in the Diſpenſatory, the power of the dried plant to procure ſneezing is owing, and not to any internal quality. The ſtem is ſimple, ſquare, almoſt leafleſs. Radical leaves on long ſtalks, ovate, ſerrated; the uppermoſt oblong, oppoſite, nearly ſeſſile. Spike terminal, obtuſe, formed of ſeveral whorls, the lowermoſt generally remote from the reſt, and accompanied by a pair of leaf-like bracteæ. Small entire bracteæ alſo accompany each flower. Corolla of a dull roſe-colour, downy, occaſionally pale or white; its lower lip generally cloven, ſometimes only crenate.

Great virtues formerly attributed to the Betony are now diſbelieved, and it is never uſed by our phyſicians. The herbage is ſaid to be mildly aſtringent, and the root emetic and purgative. The ſmell is faintly aromatic.

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ORIGANUM vulgare,
Common Marjoram.

DIDYNAMIA Gymnoſpermia.

GEN. CHAR. *Calyces* collected, by imbricated *bracteæ*, into a ſpicate, quadrangular *cone*.

SPEC. CHAR. Spikes roundiſh, panicled, cluſtered, ſmooth. Bracteæ ovate, longer than each calyx.

SYN. Origanum vulgare. *Linn. Sp. Pl.* 824. *Sm. Fl. Brit.* 639. *Hudſ.* 262. *With.* 535. *Hull.* 134. *Relh.* 237. *Sibth.* 188. *Abbot.* 132. *Curt. Lond. faſc.* 5. *t.* 39. *Woodv. Med. Bot. t.* 164.
O. vulgare ſpontaneum. *Raii Syn.* 236.

AS a grateful and ſtimulating aromatic this plant is infinitely more worthy of notice than the preceding, and accordingly is retained, at leaſt among rural practitioners, as well as for culinary uſes, though for the latter the more fragrant *O. Majorana* is preferred in the neighbourhood of London.

O. vulgare grows plentifully on chalky or limeſtone ſoils, ſometimes on gravel, in buſhy or woody places, flowering in July and Auguſt. The roots are perennial, creeping. Stems ſquare, hairy, leafy, purple. Leaves oppoſite, ovate, entire, dotted with glandular ſpots. Spikes numerous, in a terminal cluſter or head, each conſiſting of numerous roſe-coloured flowers, with ſmooth entire purple bracteæ, with which laſt colour the calyx is alſo tinged. It cannot be confounded with any other Britiſh plant.

Bees are fond of the flowers. The whole herb has a ſtrong fragrant thyme-like ſmell, and warm pungent taſte. Our ſpecimen grew at Charlton. The general colours and appearance of the plant are moſt elegant in open places and on a chalk ſoil.

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CARLINA vulgaris.
Common Carline.

SYNGENESIA Polygamia-æqualis.

GEN. CHAR. *Cal.* ſwelling: the outer ſcales ſpinous; the inner coloured, ſcarioſe, radiant. *Recept.* chaffy. *Down* feathery.

SPEC. CHAR. Stem many-flowered, corymboſe. Flowers terminal. Outer ſcales of the calyx pinnatifid; inner whitiſh.

SYN. Carlina vulgaris. *Linn. Sp. Pl.* 1161. *Sm. Fl. Brit.* 857. *Hudſ.* 355. *With.* 704. *Hull.* 178. *Relh.* 319. *Sibth.* 247. *Abbot.* 177.

C. ſylveſtris quibusdam, aliis Atractylis. *Raii Syn.* 175.

FREQUENTLY to be met with ſcattered over dry ſandy heaths and paſtures, among Ling and other humble ſhrubs, where it flowers in June and July, after which, being biennial, it dies, but does not immediately decay, for the leaves and even flowers, which are of the nature of a *Gnaphalium* or *Xeranthemum*, battered and bleached, ſtand many a wintry ſtorm.

The root is ſpindle-ſhaped. Whole plant rigid. Stem a foot high, leafy, furrowed, more or leſs woolly. Leaves alternate, ſinuated, very ſpinous, veiny, moſt woolly beneath. Flowers terminal, erect. Outer calyx-leaves very ſpinous; the inner ones longer, linear, ſmooth, radiating, yellowiſh-white, poliſhed, everlaſting, reſembling the rays of flowers in the order *Polygamia-ſuperflua*. Florets uniform, tubular, purpliſh. Antheræ with 2 briſtles at their baſe. Seed crowned with feathery down. Scales of the receptacle much reſembling the inner ſcales of the calyx.

The Carline Thiſtle, formerly uſed in medicine, is not this, but *Carlina acaulis* of Linnæus. It was reported to have been pointed out by an angel to Charlemagne, to cure his army of the plague. His name is the origin of the generic one.

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SALIX rubra.

Green Oſier.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the ſcales of a catkin. *Cor.* none. *Nectary* a gland at the baſe of the ſtamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Capſ.* ſuperior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Monadelphous? Leaves linear-lanceolate, elongated, acute, minutely toothed, ſmooth; green on both ſides.

SYN. Salix rubra. *Hudſ.* 428. *With.* 49. *Hull.* 218. *Relh.* 386. *Tr. of Linn. Soc. v.* 6. 116.

S. minimè fragilis, foliis longiſſimis utrinque viridibus non ſerratis. *Raii Syn.* 449.

GATHERED by the Rev. Mr. Hemſted between Prickwillow and Ely, alſo at Icklingham, Suffolk. It is a ſlender tree, of moderate height, when not cut down as an Oſier, flowering in April or early in May. The branches are long, ſlender, tough and pliant, ſmooth, of a greyiſh or purpliſh hue. Leaves alternate, on ſhort ſlender footſtalks, linear-lanceolate, acute, flat, 3 or 4 inches long, very minutely toothed or ſerrated, graſs green, and ſmooth, on both ſides, the young ones only being downy as in moſt ſpecies. The ſtipulæ but very rarely occur; they are linear-lanceolate and toothed. Female catkins not an inch long, obtuſe; their ſcales elliptical, hairy, purple. Germen ovate, acute, ſeſſile, ſilky, with a very ſhort ſtyle, and ovate thick ſtigmas. Nectary a yellow, cylindrical, abrupt gland at the baſe of the germen. The male plant we have never ſeen, but from analogy the ſtamina are preſumed to be monadelphous; and we think it moſt uſeful in this obſcure genus to publiſh but one ſex (as the leaves and habit never differ), rather than wait in the vain hope of obtaining both ſexes of every ſpecies, which can only be the reſult of many years' laborious ſearch.

S. rubra is among the moſt valuable Oſiers, though little known as yet to botaniſts. Ehrhart gives it in his dried plants as *S. fiſſa* of Hoffmann; to which we cannot aſſent.

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SALIX Croweana.

Broad-leaved Monadelphous Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the ſcales of a catkin. *Cor.* none. *Nectary* a gland at the baſe of the ſtamina. *Stam.* 1—5. Female *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Capſ.* ſuperior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Monadelphous. Leaves elliptical, ſlightly ſerrated, quite ſmooth; glaucous beneath.

SYN. Salix Croweana. *Tr. of Linn. Soc. v.* 6. 117.

AS far as we have been able to aſcertain, this is a perfectly nondeſcript ſpecies of Willow, the only one with united ſtamina and broad leaves, to which we have given the name of its diſcoverer, James Crowe, Eſq. F. L. S. who has obſerved it in ſeveral parts of Norfolk, flowering in April or May. It forms a ſmall irregularly growing tree, with ſhort, brittle, yellow or purpliſh, divaricated branches. Leaves alternate, on broad ſtalks, ſpreading, hardly an inch and a half long, elliptical or ſomewhat obovate, acute, edged with numerous though ſlight ſerratures; ſmooth on both ſides; bright ſhining green above; glaucous and veiny beneath; their points in maturity reflexed and often ſplit. Male catkins ovate, ſhort, and of a bright yellow when young. Scales obovate, hairy, tipped with black. Filaments more or leſs united at their baſe. Antheræ orange-coloured. The female catkins have never been meet with, but they are not wanted to diſcriminate this very diſtinct ſpecies.

This *Salix* is of no uſe as an Oſier, nor have we ſeen it any where cultivated. When in bloſſom it is one of the moſt ornamental, and the leaves are not deſtitute of beauty.

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SALIX petiolaris.

Dark long-leaved Willow.

DIOECIA Diandria.

Gen. Char. Male, *Cal.* the ſcales of a catkin. *Cor.* none. *Nectary* a gland at the baſe of the ſtamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Capſ.* ſuperior, of 1 cell and 2 valves. *Seeds* downy.

Spec. Char. Leaves lanceolate, ſerrated, ſmooth; glaucous beneath. Germen ſtalked, ovate, ſilky. Stigmas ſeſſile, cloven.

Syn. Salix petiolaris. *Tr. of Linn. Soc. v.* 6. 122.

FOR this new ſpecies of *Salix* we are obliged to Mr. Dickſon, who found it in ſome part of Great Britain, the exact place is not remembered, and ſent it in a growing ſtate to Mr. Crowe. We only know the female, which is a ſmall ſpreading tree, flowering in April. The branches are ſlender, flexible, round, ſmooth, more or leſs purple or brown. Leaves 4 or 5 inches long and almoſt an inch broad when full-grown, lanceolate, pointed, ſerrated throughout, generally unequal at their baſe; bright-green and ſmooth above; glaucous and often a little hairy beneath; in drying they turn almoſt black. Footſtalks remarkably long and ſlender. Stipulæ ſmall, lunate, ſmooth, toothed. Female catkins ſcarcely an inch long, on ſtalks. Scales ſmall, obtuſe, often notched, black and hairy. Germen on a long ſtalk, ovate, ſilky, with two ſeſſile, ovate, blunt, cloven ſtigmas. The very young leaves are tinged with an elegant ferruginous hue, eſpecially in the radical ſhoots which ſpring up when a tree is cut down. Such ſhoots in ſome ſpecies differ greatly from the general appearance of the plant, and require in this genus to be particularly attended to. The ſtigmas and germen are alſo of great moment in diſcriminating many ſpecies.

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LYCOPODIUM Selaginoides.

Prickly Club-Moſs.

CRYPTOGAMIA Filices, exannulatæ.

GEN. CHAR. *Capſules* axillary, ſolitary, of 2 valves, naked, ſomewhat kidney-ſhaped, compreſſed.

SPEC. CHAR. Leaves ſcattered, ciliated, lanceolate; the floral ones larger and more ſpreading.

SYN. Lycopodium Selaginoides. *Linn. Sp. Pl.* 1565. *Hudſ.* 463. *With.* 757. *Hull.* 236. *Dickſ. Dr. Pl.* 90. *H. Sicc. faſc.* 7. 19.

Selaginoides foliis ſpinoſis. *Raii Syn.* 106. *Dill. Muſc.* 460. *t.* 68.

BLACK boggy ſpots watered with ſmall alpine rills, in the moſt mountainous parts of Great Britain, produce this rare ſpecies of Club-moſs, which ripens its fruit in Auguſt and September. We have gathered it on the tops of hills in Weſtmoreland and Scotland, and have received it from near Middleton in Teeſdale, by favour of the Rev. Mr. Harriman, Mr. Oliver and Mr. Robſon.

The roots are ſmall, fibrous and perennial. Stems much branched, ſpreading, weak and ſlender below; the branches erect, leafy, cylindrical, obtuſe; thoſe which bear fructification longer and ſtouter than the others. Leaves of a bright graſs green, ſhining, imbricated, lanceolate, fringed with minute teeth: thoſe in whoſe boſoms the fruit is lodged are larger, yellowiſh, and more ſpreading. The capſules differ a little from the reſt of the genus, being rounder, and containing each four round white large ſeeds, to whoſe ſhape as they ſtand, one on the other three, the valves of the capſule exactly conform. In the upper part of each ſpike Mr. Sowerby has found kidney-ſhaped capſules full of fine duſt, like the fruit of the other ſpecies, which might be taken for antheræ, were it not contrary to all analogy in this tribe. We rather ſuppoſe them to be young or abortive fruit.

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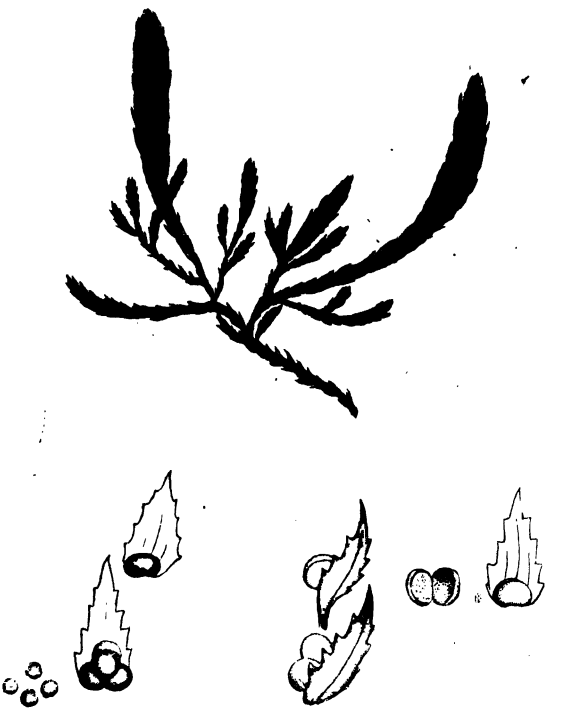

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POLYPODIUM vulgare.
Common Polypody.

CRYPTOGAMIA Filices, annulatæ.

GEN. CHAR. *Fructifications* ſcattered, in roundiſh dots, not marginal. *Involucrum* none.

SPEC. CHAR. Frond pinnatifid: lobes oblong, ſomewhat ſerrated, obtuſe. Root ſcaly.

SYN. Polypodium vulgare. *Linn. Sp. Pl.* 1544. *Hudſ.* 455. *With.* 773. *Hull.* 236. *Relh.* 409. *Sibth.* 269. *Abbot.* 226. *Curt. Lond. faſc.* 1. *t.* 68. *Woodv. Suppl. t.* 271. *Bolt. Fil.* 32. *t.* 18.

Polypodium. *Raii Syn.* 117.

VERY frequent on the tops of walls, old thatched roofs, ſhady banks, and the moſſy trunks of rotten trees. The fructification is plentiful from the beginning of ſummer till the plants are deſtroyed in the courſe of the winter.

Root perennial, creeping, twiſted, thickly clothed with lanceolate brown ſhining ſcales; its fibres woolly, of a ſhining brown. Fronds from 6 to 12 inches high, erect, ſtalked, lanceolate, acute, deeply pinnatifid, ſmooth; the lobes linear-oblong, bluntiſh, ſometimes entire, but moſt generally crenate or ſerrated, rarely lobed. Spots arranged in a ſimple ſeries on each ſide the rib of each lobe, at nearly an equal diſtance between that and the edge, round, of a yellow brown, convex, larger than in moſt ferns, perfectly naked or deſtitute of an involucrum. Every ſpot conſiſts of numerous ſtalked round pale capſules, each encompaſſed with a browniſh jointed ring. Tournefort moſt unaccountably denies the exiſtence of this ring; and Adanſon, though a profeſſed reformer, follows him.

We now agree with Dr. Swartz in ſeparating from this real genus of *Polypodium* ſuch ſpecies as have an involucrum, by the name of *Aſpidium*. Of the ferns already figured in this work, *t.* 1018 and 1019 belong to the latter genus, and *t.* 616 to the former.

The medical virtues of the Common Polypody are not enough to make it worth inquiring whether that of the oak, or that of any wall or cottage, be moſt endowed with them.

P. cambricum is a barren laciniated variety of this.

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SCOLOPENDRIUM vulgare.

Common Hart's-tongue.

CRYPTOGAMIA Filices, annulate.

GEN. CHAR. *Fructif.* in ſcattered double lines, between veins. *Involucr.* ſuperficial, folding lengthwiſe over one another, ſeparating by a longitudinal ſuture.

SPEC. CHAR. Frond undivided, tongue-ſhaped; cordate at the baſe; ſmooth beneath.

SYN. Scolopendrium vulgare. *Sym. Syn.* 193.

Aſplenium Scolopendrium. *Linn. Sp. Pl.* 1537. *Hudſ.* 452. *With.* 766. *Hull.* 241. *Relh.* 408. *Sibth.* 268. *Abbot.* 225. *Bolt. Fil.* 18. *t.* 11. *Curt. Lond. faſc.* 1. *t.* 67. *Woodv. Suppl. t.* 272.

Phyllitis. *Raii Syn.* 116.

COMMON about moiſt ſhady rocks, deſerted mines, the inſides of wells, and other damp hollow places. The fructification is moſt perfect for examination about July.

Root perennial, tufted. Fronds many, a foot or 18 inches high, erect, of a full graſs green, ſtalked, lanceolate, acute, entire, waved, ſmooth except the ſtalk and back rib, which are ſcaly; heart-ſhaped at the baſe; ſometimes accidentally cloven, or even branched, at the ſummit. Lines of fructification oblong, of various lengths, placed between two parallel veins, and conſiſting in fact of two lines of brown capſules, each accompanied by its own linear membranous involucrum; and as the lines are ſo cloſe together, one involucrum folds over the other, till ſeparated by the ripening fruit. Each capſule ſtands on a ſtalk, and is inveſted with a ring. The involucrum at length becomes reflexed, and is overgrown and concealed by the ripening capſules.

Although this fern, like that in our laſt plate, is to be found on the liſt of medicinal plants, its virtues are little regarded. Its juices are mucilaginous, partaking of ſome acrimony, and the ſmell of the plant is peculiarly unpleaſant.

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DICRANUM crispum.

Curled Fork-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsf.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem simple. Leaves capillary, lax, nerveless; dilated at the base. Capsule ovate, furrowed, erect.

SYN. Dicranum crispum. *Hedw. Sp. Musc.* 132. *Crypt. v.* 2. 91. *t.* 33. *Swartz. Musc. Suec.* 37.

Bryum vaginale. *Dicks. Crypt. fasc.* 3. 8. *With.* 827. *Hull.* 261.

THIS moss was discovered by Mr. Dickson in marshy places in Scotland. Our specimens were gathered by John Templeton, Esq. of Orange Grove near Belfast, on moist banks in the Manyburn River, Ireland, in July 1802.

Roots perennial. Stems growing in patches, erect, simple, leafy, scarcely a quarter of an inch high. Leaves light-green, spreading almost equally every way, lax and pliant, more or less undulated and curled, capillary, acute, sheathing the stem with their dilated base, destitute of rib or veins. Stalk terminal, capillary, red, twisted at the top, scarcely an inch high. Capsule nearly erect, ovate, short, of a red brown, but little contracted at the mouth, becoming somewhat spirally furrowed as it ripens. Lid with a long, slender, oblique, red point. Fringe red, of sixteen cloven flat teeth, the decisive character of the genus, of which the moss figured in our *t.* 354 (*Bryum scoparium*) is another species.

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TRICHOSTOMUM capillaceum.

Fine-leaved Fringe-Moſs.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Capſ.* oblong. *Fringe* of 32 capillary, ſtraightiſh teeth, approximated or united in pairs.

SPEC. CHAR. Leaves in two rows, ſpreading, capillary, with a dilated ſheathing carinated baſe. Capſule erect. Lid conical.

SYN. Cynontodium capillaceum. *Hedw. Sp. Muſc.* 57.
Swartzia capillacea. *Hedw. Crypt. v.* 2. 72. *t.* 26.
Bryum capillaceum. *Dickſ. Crypt. faſc.* 1. 4. *t.* 1. *f.* 6. *With.* 831. *Hull.* 262.
B. æſtivum. *Hudſ.* 485.

NOT uncommon in bogs upon mountains in Scotland, Wales, and the north of England. We have gathered it on the Pentland hills near Edinburgh, and have received fine ſpecimens from Mr. Griffith, Mr. G. Donn, and Mr. Mackay. The ſynonym of Hudſon ſtands on the indiſputable authority of the Rev. H. Davies; but the *B. æſtivum* of Linnæus and Dillenius is a widely different plant.

The ſtems form extenſive tufts, and are very ſlender, ſimple, from 2 to 4 or 5 inches high, leafy above, clothed with dark-brown fibres below. Leaves ſpreading in two ranks, of a fine green, long, capillary, acute, ſheathing the ſtem with their dilated baſe, through which runs a ſtrong central rib. Stalk terminal, upright, very ſlender, about an inch long, red and ſhining, at length a little zigzag. Capſule erect, ſmall, cylindrical, thin, pale ſhining brown, with a darker edge. Fringe of 32 very ſlender hair-like teeth, approaching each other in pairs. Lid conical, ſhort, reddiſh. Veil ſlender.

This moſs is perennial, and ripens its capſules in April and May.

We include under *Trichoſtomum* all moſſes that have a fringe of 32 teeth, whether united at the baſe in pairs or ſimply approximated. Such as have only 16 teeth go much more conveniently to the genus *Grimmia*.

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